

Student and Faculty Beliefs About Learning in Higher Education: Implications for Teaching

Kristina L. Dandy and Karen Bendersky
Georgia College

Beliefs about learning can influence whether or not a student learns course material. However, few studies in higher education have compared student and faculty beliefs about learning. In the current study, students and faculty agreed on many aspects of learning—including the definition of learning, which most hinders learning and where learning should take place—and had similar beliefs about learning styles. Though these similarities were mostly encouraging, beliefs about where learning should take place and in learning styles could undermine learning efforts. The implications of these beliefs are discussed and suggestions for promoting learning in the context of these findings are offered.

Understanding how faculty and students define and view learning can have important implications for faculty course design and assessment, as well as on student outcomes. The importance of beliefs about learning and their relationship to student learning outcomes has been noted (Edmunds & Richardson, 2009; Entwistle & Peterson, 2004; Richardson, 2005; Thielens, 1977). However, we were surprised by the lack of studies that compared both student and faculty definitions of learning, even though these definitions have been identified as important to learning outcome (see Entwistle & Peterson, 2004 for a review). For example, Thielens (1977) argued that learning behavior is based upon definition of learning, and Edmunds and Richardson (2009) found that conceptions of learning are correlated with learning approaches. Similarly, Entwistle and Peterson's (2004) review of educational literature indicated that both student and faculty conceptions of learning and knowledge are related to approaches to learning. Given the emphasis placed on assessing learning in higher education, and because beliefs about learning can influence how students study course material and how professors structure their classrooms, our aim was to capture and compare both student and faculty definitions of learning and assess the definitions' relationships to beliefs about learning.

A common definition of learning in higher education is fairly elusive. Some have created categories to capture the various definitions of learning garnered from learners (e.g., Marton, Dall'Alba, & Beaty, 1993; Richardson, 2005), while others have defined learning in traditional behaviorist terms: a relatively permanent change in behavior as a result of prior experience (see Lachman, 1997 for a review). Still, for others, learning is defined as a process (Lachman, 1997; Rogers, 1997). Recently, research has emphasized the difference between defining learning as a *product*, a consequence of learning (e.g., scores on assessments), versus a *process*, a change in behavior across time (e.g., grade improvement; Alexander,

Schallert, & Reynolds, 2009; Lachman, 1997; Rogers, 1997). Given the focus on learning styles at all levels of education and the trend in higher education to match teaching style to a student's learning style, it is also possible that some might even define learning as a style. But even in the educational literature, learning styles have been defined variably (Cassidy, 2004; Coffield, Moseley, Hall, & Ecclestone, 2004; Henson & Borthwick, 1984; Hyman & Rosoff, 1984).

Pashler, McDaniel, Rohrer, and Bjork (2008) argued that the popularity of learning styles stems from the wide-spread use of personality tests such as the Myers-Briggs, which categorize people by "type," ultimately giving way to the development of typed-based learning-style assessments. Proponents of the concept of learning styles continue to argue for its role in student learning outcomes and the utility of teaching to students' styles (e.g., Felder, 2010). Further, numerous college and university teaching centers across the US actively promote teaching to learning styles and even offer faculty resources for matching instruction methods to students' learning styles (Appendix A provides a random list of such collegiate websites). Their online resources promote the use of active learning or student centered teaching strategies precisely because these varied strategies target students with diverse learning styles and mitigate the problem of students with any one particular learning style being at a disadvantage. Though varying teaching approaches in the classroom is probably sound practice, the push to apply learning styles to pedagogical practices is a hasty one (Stahl, 1999). A recent review of the learning styles literature by Pashler et al. (2008) quite definitively concluded that few learning styles studies use the appropriate methodology necessary to detect the effects of learning styles on academic achievement, and those that do show that teaching to a student's learning style does not enhance learning. Unfortunately, the continued focus on teaching to learning styles could lead students to externalize reasons for poor performance as well as

create unnecessary obstacles to student learning by shifting faculty attention away from applying more empirically supported teaching and learning methods (Coffield et al., 2004; Riener, 2010). Because of the ubiquity of the notion of learning styles in higher education, we felt it important to capture whether student and faculty beliefs about learning styles were related to beliefs about learning.

Considering the diverse ways of defining learning, our first goal was to identify common faculty and student definitions of learning and to assess their relationship to beliefs about learning. A second goal, driven by the push to teach to learning styles in higher education, was to assess the impact of general beliefs about learning styles on beliefs about learning. For the purposes of this study, we targeted beliefs regarding where learning should take place, which poses the biggest hindrance to learning, whether learning styles exist, and whether teaching to a learning style enhances learning. We felt these beliefs represented areas of the most disagreement between students and faculty.

Pilot Study

Due to the lack of research comparing definitions of learning and their influence on beliefs about learning, we began with a pilot study that qualitatively captured faculty and student beliefs about learning. This initial work informed the specific hypotheses addressed in the current study. In our pilot study, 27 faculty and 101 students responded to open-ended questions regarding how they would describe learning and whom they felt most hindered student learning. These data revealed common themes in student and faculty descriptions of learning. For example, students described learning as the comprehension, using, describing, explaining, and interpreting of information (common theme: the ability to apply information), and as the acquiring and building of knowledge (common theme: the involvement of memory processes), and, to a lesser degree, as a style. Similarly, faculty described learning as a process that involved the acquisition and building of knowledge and the ability to apply information. However, faculty did not spontaneously define learning as a style. These descriptions of learning cited by our students and faculty closely resembled the conceptions of learning cited by students in other work (see Richardson, 2005 for a review), and ultimately informed the definitions of learning choices used in the current survey. Interestingly, when students and faculty were asked what factors most hindered student learning, students predominantly cited what we identified as external factors (namely teaching ability) and faculty predominantly cited what we identified as internal factors (namely the lack of interest, focus, and preparation of students).

Based on these qualitative results, we constructed a more specific measure of learning definition and beliefs about learning and were able to identify several specific hypotheses for the current study. From results of our pilot study, we expected that students and faculty would have similar definitions of learning but would disagree on whom (the professor or the student) represented the bigger hindrance to student learning, with more students citing the professor and more faculty citing the student. We also assumed that students and faculty would disagree on where learning takes place (inside or outside the classroom), with more students citing inside the classroom and more faculty citing outside the classroom. Furthermore, we hypothesized that students' beliefs about who hinders learning and where learning takes place would be mediated by a belief in learning styles. Some have argued that the focus on teaching to learning styles could lead students to externalize reasons for poor performance as well as create unnecessary obstacles to student learning (Coffield et al., 2004; Riener, 2010). Therefore, we specifically expected that a belief in learning styles would correspond to viewing the professor as the bigger hindrance to learning, the belief that teaching to their learning style would enhance learning and, consequently, the belief that learning primarily takes place inside the classroom.

To assess these hypotheses, we conducted a quantitative study aimed at comparing student and faculty definitions of learning and related factors that could affect student learning in higher education. The data reported here were part of a larger exploratory study assessing student and faculty beliefs about learning, studying and assessment. Our goal in the current study was to identify relationships between student and faculty beliefs about learning as a first step toward understanding how such beliefs might influence the learning process.

Method

Participants

We surveyed undergraduate students and faculty at one public and one private mid-sized Southeastern US undergraduate liberal arts university. One hundred sixty-four undergraduate students (134 women) responded to the survey. Students (age $M = 19.62$, $SD = 1.55$) represented 26 majors and four class levels (53 freshmen, 56 sophomores, 36 juniors, 19 seniors). Their mean GPA was 3.17 ($SD = 0.47$). Of the eighty-one faculty respondents (48 women), 23 different academic areas, five ranks (28 assistant, 16 associate, 20 full, 12 lecturer/instructor, four other), and four statuses (11 non-tenure track, 36 tenured, 27 tenure-track, six other) were represented. One faculty member preferred not to reveal rank or tenure status, and three did not reveal their gender.

Materials

The authors of this study created two web-based surveys designed to compare student and faculty views of learning. Both surveys collected demographic information and contained forced-choice, Likert-scaled, and open-response items. Portions of this survey were also used for a separate study to evaluate learning, studying, and assessment.

The student survey contained 76 items and the faculty survey included 37 items. Survey length varied as a function of the nature of the items. Both faculty and students were asked questions about their own definition of learning, where they believed learning should take place, and whom they believed hinders learning. However, as part of a separate project, students were also asked additional questions pertaining to the methods they used to study for certain courses, their motivation for studying, specific techniques used when studying, and several questions regarding their perceived learning style(s).

The response choices provided for both the forced-choice and the Likert-scaled questions were compiled from student and faculty answers to open-ended-questions from the pilot study described earlier. The main goal of the current study was only to capture

specific information regarding student and faculty beliefs about learning. Therefore, we used the common themes that emerged from these initial open-ended questions (see Table 1) when constructing the forced-choice questions for the current survey. Examples of forced choice learning questions across respondent groups include, “What is your definition of learning? Choose the one definition that best fits your concept of learning?” and “Given your experience, who is the bigger hindrance to undergraduate student learning?” Learning styles and beliefs about these styles were assessed with forced choice questions such as, “Do you agree with this statement? People have different learning styles” and “What was your determined dominant learning style?” Likert scales were used to capture information for another study. Appendix B is a full copy of the survey.

Procedure

At both universities, students and faculty were recruited via electronic mailing lists. In addition, we made use of our department’s online participant recruitment website through which students could gain course research credit or extra credit for their participation. Participants were fully informed that the intent of our study was to assess beliefs about

Table 1
Items from the Faculty and Student Pilot Study

Target	Survey items
Faculty	1. What type of student do you primarily teach?
	2. Do you think undergraduate students study differently for courses in their major versus outside their major?
	3. Why do you think some students study differently for courses in their major?
	4. List the studying techniques you think students use (for courses in and outside their major).
	5. Regarding your courses, how would you describe "learning"?
	6. Regarding your courses, list any factors you think hinder student learning.
	7. Regarding your courses, what do you think is the best way to assess (measure) student learning?
	8. What do you think motivates students to STUDY.
	9. How accurately does course grade reflect how much students have learned?
	10. How motivated are students to study for classes OUTSIDE their major?
	11. How motivated are students to study for classes IN their major?
	12. How well do student's study strategies work for them in terms of their learning?
Students	1. Do you typically study differently for courses in your major versus outside your major?
	2. If you answered “Yes” above, tell us WHY you study differently for courses in your major.
	3. List the studying techniques you use (for courses in and outside your major).
	4. Regarding your courses, how would you describe “learning”?
	5. Regarding your courses, list any factors you think hinder your learning.
	6. Regarding your courses, what do you think is the best way to assess (measure) your learning?
	7. Tell us what motivates YOU to STUDY.
	8. How accurately do your course grades reflect how much you have learned?
	9. How motivated are you to study for classes IN your major?
	10. How motivated are you to study for classes OUTSIDE your major?
	11. How well have your study strategies worked for you in terms of your learning?

Note. Demographic questions are not included. Student *n* = 101. Faculty *n* = 27.

undergraduate learning and assessment (for faculty) or to assess beliefs about undergraduate learning and studying (for students) and that relevant student and faculty responses would be compared. All responses were collected anonymously.

Surveys were created with Google Drive, and all data responses were collected through this online service. Participants were provided with a web link for their respective survey and could take the survey at any location with a computer and internet access. When participants clicked on the provided link, they were immediately taken to a webpage containing a brief summary of the study and the consent form. After granting their consent, participants could begin answering the study questions. Both surveys began with the demographic questions, and questions were grouped into separate sections (e.g., demographic questions, course assessment, learning). Each survey page contained a grouping of these questions (rather than one question per page) and should have taken less than 20 minutes to complete.

Results

Main Hypotheses

Student and faculty definitions and beliefs about learning. Results supported some, but not all, predictions. There were no significant relationships between learning definitions and beliefs regarding where learning should take place, who poses the biggest hindrance to learning, whether learning styles exist, or whether teaching to a learning style enhances learning. However, as expected, students and faculty had similar definitions of learning. The most common definition chosen by both students and faculty was, "Learning is the comprehension and use of knowledge." Because our data violated the chi-square assumption that less than 80% of the cells had expected counts of five, we used a Fisher exact test to assess the relationship between learning definition and participant status (student or faculty). This test revealed a significant dependent relationship between participant status and learning definition, $p = .024$, but no residuals exceeded the critical value of 1.96 (see Aspelmeier & Pierce, 2009 for an overview of the interpretation of crosstab residuals); we did not find that any specific definition was more or less expected across participant status. Contrary to our predictions, students and faculty agreed on who most hindered learning (students or faculty), with a majority of students and faculty citing the student as the biggest hindrance. Similarly, a majority of students and faculty agreed that learning should take place "equally inside and outside the classroom." Chi-square tests of independence revealed that participant status (student or faculty) was significantly related to

beliefs about who poses the biggest hindrance to learning, $\chi^2(2, N = 245) = 8.03, p = .018$, and related to beliefs about where learning should take place, $\chi^2(2, N = 245) = 19.73, p = .000$. Belief about hindrance to learning was dependent on participant status; however, no standardized residuals exceeded the critical value of 1.96 (therefore participant status did not affect hindrance). Regarding beliefs about where learning takes place, standardized residuals showed that fewer faculty stated that learning should take place primarily in the classroom and more faculty stated that learning should take place primarily outside the classroom than would be expected by the chi-square test of independence. Table 2 summarizes the student and faculty percentages for the learning definitions and beliefs about where learning takes place and who most hinders learning.

Student beliefs about learning styles and their relationship to beliefs about learning. Finally, we wanted to assess our hypotheses regarding student and faculty beliefs about learning styles. A majority of students stated that they had a learning style. Furthermore, a majority of faculty and students believed that teaching to a student's learning style would enhance student learning. Figure 1 depicts the differing responses of students and faculty to the question of whether teaching to a learning style enhances learning. Results of a chi-square test for independence revealed that faculty were significantly more likely than expected to disagree that teaching to a student's learning style would enhance student learning, and students were significantly less likely than predicted to disagree that teaching to a student's learning style would enhance student learning, $\chi^2(2, N = 245) = 22.17, p = .000$. Further, because our data violated the chi-square assumption that less than 80% of the cells had expected counts of five and we had a 3 x 3 crosstab, we used a Cramer's V test to address whether this belief of teaching to learning styles was associated with beliefs about who hinders learning and where learning should take place. There were no significant results regarding who hinders learning suggesting that belief of teaching to learning styles was unrelated to ideas about who hinders learning. However, faculty who do not believe that teaching to a student's learning style would enhance student learning were significantly more likely to state that learning should take place primarily outside of the classroom than expected by this statistical test, $p = .030$. No significant results were found for students.

Additional Analyses

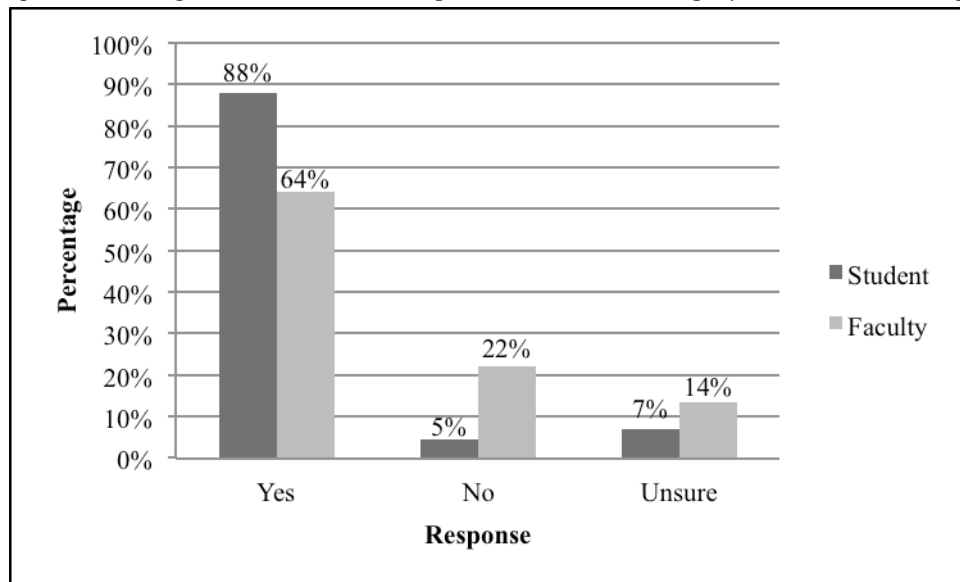
Student and faculty characteristics and their relationship to beliefs about learning. Our main concepts of learning definition, hindrance, place and

Table 2
Student and Faculty Response Frequencies to Beliefs About Learning

Survey items	Frequency (%)	
	Student	Faculty
Definition of learning		
Learning is the comprehension and use of knowledge	72 (44%)	48 (59%)
Learning is the acquisition and building of knowledge	58 (35%)	27 (33%)
Learning is a style or an approach to gaining knowledge	28 (17%)	6 (7%)
Learning is the remembering of knowledge	6 (4%)	0 (0%)
Where learning should take place		
Equally inside and outside the classroom	109 (67%)	60 (74%)
Primarily in the classroom	50 (30%)	9 (11%)
Primarily outside the classroom	5 (3%)	12 (15%)
Who most hinders student learning		
The Student	90 (55%)	42 (52%)
Prefer not to choose	37 (23%)	30 (37%)
The Instructor	37 (23%)	9 (11%)

Note. Student ($n = 164$) and faculty ($n = 81$) percentages were rounded to the nearest whole number.

Figure 1
Responses to the Question “Does Teaching to a Student’s Learning Style Enhance Learning?”



Note. The figure includes percentage of students ($n = 164$) and faculty ($n = 81$) who answered *Yes*, *No*, or *Unsure* to the question: “Does teaching to a student’s learning style enhance learning?” Percentages were rounded to the nearest whole number.

style were also analyzed separately by faculty characteristics (i.e., tenure status, rank, and department area) and student class level (i.e., freshman, sophomore, junior, senior) to assess whether the results reported above were pertinent to a specific faculty characteristic or student class level. None of the faculty characteristics were significant. There were no significant differences among class levels and learning definition, hindrance, or place. However, a Cramer’s V , $p = .000$, did indicate a

relationship between class level and the belief that teaching to a learning style would enhance student learning. This relationship was significant only for seniors. Specifically, a more than expected number of seniors did not believe that teaching to a learning style enhanced learning. A similar trend regarding whether learning styles exist was also found among the senior students (Cramer’s V , $p = .000$). More seniors than expected did not believe in the existence of learning

styles. Of note, the number of seniors assessed was less than half the size of the other groups.

Discussion

The current study was an examination of student and faculty beliefs about learning as a step toward understanding how these beliefs might influence the learning process. While we did not find a relationship between specific definitions of learning and beliefs about where learning should take place, who poses the biggest hindrance to learning, whether learning styles exist, or whether teaching to a learning style enhances learning, we did find that students and faculty agreed on these aspects of learning.

Overall, we were encouraged that students and faculty had similar beliefs regarding learning, as this provides an opportunity for better communication between faculty and their students. However, we did identify some concepts of learning that could potentially hamper faculty's best intentions to promote learning. Despite these seeming incompatibilities, we believe that the similarities in faculty and student beliefs about learning still offer a means for promoting student learning.

Because students and faculty agreed that learning is "the comprehension and use of knowledge," there is an opening for faculty to discuss and address this definition of learning in the classroom. Faculty can openly explain the student's role in comprehending and using course information and offer various study strategies, tailored for the specific subject matter, that would help students achieve comprehension. An important piece to gaining the ability to use knowledge is that students continue to revisit the material outside of class. Karpicke (2012), for example, suggests using retrieval based learning strategies to promote meaningful learning. The practice of retrieving information, following initial exposure to course material, has been shown to significantly improve conceptual learning (Karpicke & Blunt, 2011). Students and faculty agreed that the student is the biggest hindrance to learning. However, because students and faculty also agreed that learning should take place equally inside and outside the classroom and that teaching to learning styles enhances learning, convincing students of their role in learning how to apply material could be a challenge.

Although faculty and student opinions on the sources of student hindrance probably vary, our pilot study showed that both agreed that students' lack of preparation, motivation and distractions beyond the class (e.g., family, friends, activities) hindered learning. Thus, an initial frank discussion of the instructor's expectation that students not only be able to comprehend but also use course information is an

important step toward addressing preparation and motivation issues (metaphorically lighting the fire under them). Further, faculty could design their course in such a way that it facilitates the expected application of knowledge. Evidence suggests that the adoption of different study strategies by college students can be influenced by the type of assessment (e.g., Feldt & Ray, 1989; McDougall & Granby, 1996), therefore one suggestion for faculty is to directly test application ability on exams or assign coursework that encourages application. Regarding where learning takes place, it would also be helpful for faculty to set a classroom tone that although comprehension and use of material begins in the classroom, it must continue beyond the classroom. Unfortunately, since faculty similarly believe that learning should take place equally in and out of the classroom they might not be emphasizing that students should be spending even more time outside (than inside) of class promoting learning (e.g., studying and applying the material). The instructor could stress that students need to find a way to balance life distractions with the expected workload outside of the classroom, but we think it would be more productive to concretely convey how much time they are expected to devote to the course beyond the classroom. For example, an instructor might explain that they expect the students to spend double the amount of time studying that they spend in class each week.

Similarly, faculty and student belief that teaching to learning styles enhances learning only serves to undermine faculty efforts. If the goal is comprehension and application, faculty need to spend their time teaching concepts and promoting application of material. Although there are many teaching models available that might promote such learning (e.g., Karpicke, 2012; Karpicke & Blunt, 2011), the evidence (e.g., Pashler, et al., 2008) clearly suggests that teaching to learning styles is not one of them. Our data show that students seem to have been told they do have a learning style; however, we find it promising that a quarter of the students indicated that they have no idea what it is, and by their senior year they seem to be dispensing with the notion all together. This is good news given the lack of evidence supporting learning styles. Faculty have the opportunity when designing their course to promote the adoption of effective study strategies based on the type of assessment given rather than concerning oneself with how other factors, such as learning styles, affect the learning process. Faculty should instead focus on teaching to their definition of learning, a definition that students share, and work towards teaching students how to address the key learning components both inside and outside the classroom.

Although a majority of faculty agreed that teaching to a student's learning style enhanced learning, more than expected disagreed with this notion. This trend

was not found for students, suggesting that faculty might be less convinced than students that learning style is important in the learning process. However, while faculty's beliefs regarding whether or not teaching to a student's learning style enhanced learning did not mediate beliefs about who poses the biggest hindrance to learning, it did mediate beliefs about where learning should take place. Specifically, faculty who did not believe that teaching to a student's learning style would enhance learning were more likely to believe that learning should take place primarily outside the classroom. This suggests that faculty views about learning style might in fact influence their expectations of students (e.g., expectations of where they engage in learning). More research on these views would help clarify whether faculty who do support teaching to a learning style are actually hindering learning by emphasizing too much inside the classroom and not enough beyond it. Additionally, one reason why student beliefs about teaching to a student's learning style differed from faculty's could be due to how respondents personally defined 'learning style. This is entirely possible given the varying definitions of learning style that exist even within that field (e.g., Cassidy, 2004). We assumed that students would define learning style much in the same way as faculty, but this may not have been the case. Regardless, we still endorse a focus on teaching to one's definition of learning rather than style.

In summary, our findings support the idea that beliefs about learning could influence both the process (e.g., classroom engagement and studying) and product (e.g., grades) of learning, and they suggest that students and faculty agree more about the process of learning than once thought (Thielens, 1977). They not only share similar definitions of learning, but also agree on where learning takes place, and who hinders student learning. Thus, faculty and student concepts of learning hold important implications for how faculty interact with students, design their courses, and assess student learning.

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KRISTINA L. DANDY, PhD, earned her doctoral degree in experimental psychology from Texas Christian University in Fort Worth, TX, and is currently an assistant professor of psychology at Georgia College in Milledgeville, Georgia. Her research interests include animal models of learning, with a focus on factors that influence complex choice, and student learning. She teaches courses in research methodology and statistics, the psychology of learning, and behavioral pharmacology.

KAREN BENDERSKY, PhD, is former professor of psychology at Georgia College in Milledgeville, Georgia where she taught courses in developmental and cognitive psychology as well as advanced research and senior specialty courses. Her doctoral degree in developmental psychology is from Purdue University in West Lafayette, IN and her research interests are in infant cognition and student learning. She is co-author of the undergraduate guidebook, *College Orientation*, and is currently teaching at the University of Maryland, Baltimore County.

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Appendix A
Sample List of Collegiate Teaching Center Websites Supporting Teaching to Learning Styles

<http://www.crlt.umich.edu/tstrategies/tsls>
<http://fod.msu.edu/oir/learning-styles-teaching-styles-multiple-intelligences>
<https://www.sc.edu/cte/guide/teachingstyles/index.shtml>
<http://www.cte.cornell.edu/teaching-ideas/engaging-students/learning-and-teaching-styles.html>
<http://www.tlpd.ttu.edu/teach/TLTC%20Teaching%20Resources/LearningStyles.asp>
<https://www.washington.edu/doi/TeamN/learn.html>
<https://www.fontbonne.edu/academics/academicresources/centerforexcellenceinteachinglearning/understandingandmotivatingstudents/learningstylesanddifferentiatedinstruction/>
<http://www.ion.uillinois.edu/resources/tutorials/pedagogy/instructionalstrategies.asp>

Appendix B
Examples of the Student and Faculty Surveys Used in the Current Study

Student Online Survey:
(Consent form is not included)

Answer these questions honestly and thoughtfully.

All the information you provide is anonymous.

We ask that you give these questions your full attention. Please do not answer email, phone, or text messages or engage in other activities (e.g., watching TV) during this survey.

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Undergraduate Survey of Learning and Studying

Part I. Demographic Information

Answer the following questions as directed.

What is your gender? *

- Male
 Female
 Prefer not to answer

Type your age below. *

Use numerals, for example: 20

Choose your current major (if you are a double major, choose the major for which you have taken the most classes): *

Indicate your class standing based on current credit hours. *

- Freshman (0-29 semester credit hours)
 Sophomore (30-59 semester credit hours)
 Junior (60-89 semester credit hours)
 Senior (90 and above semester credit hours)
 Graduate student
 Other

Type your current overall GPA below *

For example: 2.59

Note: "Go to page" selections will override this navigation. [Learn more.](#)

Part II. Learning

What is your definition of learning? *

Choose the one definition that best fits your concept of learning.

- Learning is a style or an approach to gaining knowledge.
- Learning is the comprehension and use of knowledge.
- Learning is the acquisition and building of knowledge.
- Learning is the remembering of knowledge.

Given the definition you chose above, which exam type do you think best leads to your better learning the material? *

- Multiple-choice only exams
- Essay only exams
- Multiple-choice/Essay combined exams
- Cumulative exams
- Papers/Writing projects
- Presentations (individual)
- Group activities (includes group presentations)

Given your experience, who is the bigger hindrance to undergraduate student learning? *

Please choose one answer.

- The student.
- The professor.
- Prefer not to choose.

Complete this sentence, "I think undergraduate student learning should take place..." *

Please choose one answer.

- primarily in the classroom."
- primarily outside the classroom."
- equally inside and outside the classroom."

Part II. Learning (continued)

Do you agree with this statement? "People have different learning styles." *

- Yes

- No
- I'm not sure.

Do you agree with this statement? "I think that teaching to my learning style enhances my learning." *

- Yes
- No
- I'm not sure.

Have you, or has someone else, determined that you have a particular learning style? *

- Yes
- No
- I'm not sure.

What was your determined dominant learning style? Choose one answer only. *

Learning style is usually determined with a questionnaire. Choose, "I don't know" if you've never taken a learning style questionnaire/inventory.

- Visual
- Auditory/Aural
- Kinesthetic/Physical/Tactile
- Verbal/Linguistic
- Logical/Mathematical
- Social/interpersonal
- Solitary/intrapersonal
- Active
- Reflective
- Sensing
- Intuitive
- Sequential
- Global
- An equal combination of styles.
- I don't know.
- I don't remember.
- Other

Using the scale below, indicate your level of agreement with each of the following statements regarding course grades.

- 1 = Strongly Disagree
- 3 = Neutral
- 5 = Strongly Agree

*	1 SD	2	3 N	4	5 SA
In general, course grades accurately reflect how much I have learned in a course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, course grades accurately reflect how much time I put into a course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, course grades accurately reflect how much information I understand in a course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, course grades accurately reflect how much effort I put into a course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Part III. Studying

Indicate why you might study differently for courses in your major (versus your non-major/elective courses):

* Choose the one answer that fits you best.

- I do not study differently for courses in my major.
- Courses in my major are more difficult.
- Courses in my major are more relevant to my future.
- Courses in my major mean more to me (I care more about them).
- Courses in my major are more interesting.
- Courses in my major have a GPA requirement.
- Courses in my major require more time.

Think of one of your typical courses. Chose the appropriate discription below. *

Chose one answer.

- This course is a lower level course in my major (I have to take this course for my major).
- This course is an upper level course in my major (I have to take this course for my major).
- This course is a lower level course outside my major (I do not have to take this course for my major).
- This course is an upper level course in my major (I have to take this course for my major).
- Other

Thinking of the course you chose above, what is your main goal when you study for this course? *

Choose the one answer that fits you best.

- To remember the material for the exam.
- To remember the material beyond college.
- To understand the material.
- To be able to apply the material.
- To be able to recognize the material for the exam.
- I do not study for this course.

Thinking of the course you chose above, indicate your level of agreement with each of the following statements regarding your studying techniques.

Use the following scale:

1 = Strongly Disagree

3 = Neutral

5 = Strongly Agree

*

	1 SD	2	3 N	4	5 SA
I usually use flash/note cards to help me memorize when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually use flash cards or note cards as prompts to come up with examples or applications of concepts when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually re-read all the course material when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually read over all the course material when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually memorize all the concepts in the course material (without the aid of flash/note cards) when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually try to explain the course material to others when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually try to elaborate (relate the information to things I already know) on the course material when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I usually try to apply the course material to other situations or settings when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually make up and later answer my own test questions when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually re-write/type all my notes when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually do additional readings of the course topics (readings that are not required).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part III. Studying (continued)

Now consider ALL of your courses. For each scenario below, indicate your level of agreement with the use of each study technique.

Use the following scale:

1 = Strongly Disagree

3 = Neutral

5 = Strongly Agree

If you just want to pass an exam (i.e., get a "C"), you would: *

	1 SD	2	3 N	4	5 SA
Create and memorize flash/note cards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create and use flash/note cards as prompts to come up with examples or applications.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Memorize course concepts (without the aid of flash/note cards).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain the course material to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elaborate on the course material (relate it to things you already know).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Apply the course material to other situations or settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up and later answer your own test questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-write/type your notes when you study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do additional readings on the course topics (readings that are not required).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you want to get an "A" on an exam, you would: *					
	1 SD	2	3 N	4	5 SA
Create and memorize flash/note cards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create and use flash/note cards as prompts to come up with examples or applications.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Memorize course concepts (without the aid of flash/note cards).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain the course material to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elaborate on the course material (relate it to things you already know).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apply the course material to other situations or settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up and later answer your own test questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-write/type your notes when you study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do additional readings on the course topics (readings that are not required).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you have an upcoming multiple choice exam, you would: *					
	1 SD	2	3 N	4	5 SA
Create and memorize flash/note cards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create and use flash/note cards as prompts to come up with examples or	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

applications.					
Re-read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Memorize course concepts (without the aid of flash/note cards).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain the course material to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elaborate on the course material (relate it to things you already know).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apply the course material to other situations or settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up and later answer your own test questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-write/type your notes when you study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do additional readings on the course topics (readings that are not required).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you have an upcoming essay exam, you would: *					
	1 SD	2	3 N	4	5 SA
Create and memorize flash/note cards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create and use flash/note cards as prompts to come up with examples or applications.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Re-read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read assigned material.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Memorize course concepts (without the aid of flash/note cards).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain the course material to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elaborate on the course material (relate it to things you already know).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apply the course material to other situations or settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up and later answer your own test questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Re-write/type your notes when you study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do additional readings on the course topics (readings that are not required).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page 9

After page 8 [Continue to next page](#)**Part III. Studying (continued)****What most motivates you to STUDY for any of your courses? ***

Choose the one answer that fits you best.

- I study because my family expects me to.
- I study to earn better grades.
- I study to earn a certain GPA (grade point average) so I can keep a scholarship.
- I study to earn a certain GPA (grade point average) because of personal drive, self-esteem, or competitiveness.
- I study because I like gaining new knowledge.
- I study because I will need the information for graduate school or for a job.
- I study because my friends do it.
- I do not study.
- Other.

Student Online Survey:
(Consent form is not included)

Faculty Survey of Undergraduate Learning & Assessment

This is an investigation of faculty beliefs about undergraduate learning and assessment. It involves less than 20 choice response questions. Faculty answers will be aggregated and, where relevant, compared with those of students. The entire survey should take less than 10 minutes.

All information is gathered anonymously.

Preliminary Question

What type of student do you primarily teach? *

Choose the student you mainly teach.

- Undergraduate
 Graduate

Part I. Demographic Questions

Answer the following 5 questions as directed.

What is your gender? *

- Male
 Female
 Prefer not to answer

Choose your rank. *

- Full professor
 Associate professor
 Assistant professor
 Lecturer/Instructor
 Other
 Prefer not to answer

Choose your rank status. *

- Tenured
 Untenured, tenure-track
 Non tenure-track
 Other
 Prefer not to answer

Choose the primary academic area in which you teach. *

(College of Arts & Sciences) Art

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Part II. Course Requirements

Choose one of your typical undergraduate courses and keep this course in mind as you answer the next

question. Indicate below what type of course you chose. *

- My chosen course is an upper level (junior/senior) course.
- My chosen course is a lower level (freshman/sophomore) course.

Indicate how often you currently use each type of course requirement in your chosen course. *

Consider all values on the scale below (not just those labeled).

	1 Never	2	3 Sometimes	4	5 Always
Multiple-choice only exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Essay only exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multiple-choice/essay combined exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cumulative exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentations (individual)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group Activities (includes group presentations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is your definition of learning? *

Choose the one definition that best fits your concept of learning.

- Learning is a style or an approach to gaining knowledge.
- Learning is the comprehension and use of knowledge.
- Learning is the acquisition and building of knowledge.
- Learning is the remembering of knowledge.

Indicate the potential of each course requirement to capture the definition of learning you chose above: *

Consider all values on the scale below (not just those labeled).

	1 Low potential to capture my learning definition	2	3 Moderate potential	4	5 High potential to capture my learning definition
Multiple-choice only exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Essay only exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multiple-choice/Essay combined exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cumulative exams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Papers/Writing projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentations (individual)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group Activities (includes group presentations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part III. Course Assessment

Course Assessment Definition:

Any measure of student learning outcomes that is not part of the instructor's regular course requirement and whose data are submitted to others. These assessments are typically stipulated by a university's administration. These may or may not include assessments created by the instructor. An example of a course assessment would be an evaluation of students' knowledge in a specific course, the data (typically aggregated across instructors of the same course) would then be submitted to an administrator (e.g., department chair, dean, provost, etc...). This assessment is NOT typically used to assign student grades.

Using the definition above, which one is true for you: *

Please choose one answer.

- I conduct a voluntary course assessment in at least one of my undergraduate courses.
- I have been directed to conduct a course assessment in at least one of my undergraduate courses.
- I have not been directed to conduct course assessments in any of my undergraduate courses.
- I am unsure.

Using the definition above, are you resistant to the idea of undergraduate course assessment? *

Please choose one answer.

- Yes
- No
- Unsure

Using the definition above, indicate how strongly you agree or disagree with each of the following statements: *

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
Course assessments intrude on teaching/class time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments might be used as a measure of teaching ability.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments are inconvenient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments are poorly constructed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments are the best way to measure student learning outcome.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Course assessments are the only way to measure student learning outcome.

Using the definition above, indicate how strongly you agree or disagree with each of the following statements: *

	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
Course assessments are no better than final grades at capturing student learning outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments do not capture the students' responsibility in the learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course assessments do not adequately measure student learning outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part IV. Student Learning

Please answer each question below.

Given your experience, who is the bigger hindrance to undergraduate student learning? *

Please choose one answer.

- The student
- The instructor
- Prefer not to choose

Complete this sentence, "I think that undergraduate student learning should take place... *

Please choose one answer.

- primarily in the classroom."
- primarily outside the classroom."
- equally inside and outside the classroom."

Do you agree with this statement? "I think that teaching to a student's learning style enhances student learning."*

Please choose one answer.

- Yes
- No
- Unsure

Do you agree with this statement? "I think that teaching to a student's learning style will lead to better course assessment outcome."*

Please choose one answer.

- Yes
- No
- Unsure

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Your Feedback

This section is optional. You may continue to the next page if you do not wish to provide feedback.

Do you have any comments regarding course assessments?

Please provide your comments in the text box below.

Do you have any comments regarding student learning?

Please provide your comments in the text box below.

Do you have any comments regarding this survey?

Please provide your comments in the text box below.

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Thank you for your interest in our study.