

# Quality Approaches in Higher Education



Incorporating  
trivia and music  
into pre-class  
time for student  
engagement

## Pre-teaching Strategies Contributing to a Positive Learning Environment

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### **Abstract**

In our knowledge-based society, the ability to learn or enable people to learn is essential. Colleges and universities are viewed as key sources for disseminating knowledge. Literature shows that actions shaping the classroom environment, increasing student interest, and enhancing engagement have positive implications for student learning. This article summarizes our assessment of two different methods used prior to the start of class time by the authors to try to increase readiness to learn, while enlivening students' attitudes prior to the actual formal teaching and learning session. One author played music in the background before class, and the other authors asked trivia questions. A study was performed to test the benefits of using trivia questions before class to improve student experience in a class where participation is included as part of the course score. The benefits observed from each of these strategies are discussed.

### **Keywords**

Higher Education, Learning Environment, Student Engagement

### **Introduction**

The acquisition and management of information are seen as critically important in the context of the knowledge-based economy that characterizes the current business landscape (Psarras, 2006). The process of acquiring information is embodied, to some extent, within the process of learning. There are a variety of venues and resources available for those interested in engaging in the learning process. College programs, however, are still among the most well-respected sources of formal knowledge acquisition and learning. It is readily acknowledged that college does impact students (Donaldson & Graham, 1999).

The increased importance of "learning" in this knowledge-based economy is accompanied by the need to better understand factors that affect outcomes or quality associated with learning environments (Self & Schraeder, 2007). Business schools, in particular, face intense pressure to demonstrate the effectiveness of their programs to multiple stakeholders. Specifically, external stakeholders, such as businesses and organizations, are interested in the quality of learning that occurs in college programs since the graduates of these programs will ultimately seek employment within these organizations. As such, these graduates collectively comprise a resource that could be a competitive advantage for these organizations. Colleges of business seeking special accreditation (e.g., from organizations such as the Association to Advance Collegiate Schools of Business) also face pressures to monitor, track, and improve the effectiveness of their programs (Trapnell & Boxx, 2011). Mastery or learning facts, theories, and details within specific content domains represent an important element in the overall context of learning in business programs. However, more general types of learning that are not domain or subject specific, such as critical thinking skills, are also viewed as important outcomes associated with a college education (Bissell & Lemons, 2006; Burbach, Matkin, & Fritz, 2004), as well as being considered valuable in the context of work and jobs (McEwen, 1994).

There are obviously a number of factors which contribute to the overall quality of learning that takes place in the classroom. For example, the level of student engagement, which

is regarded as multi-faceted, is recognized as an important factor impacting learning outcomes (Handelsman, Briggs, Sullivan, & Towler, 2005). According to Rachal, Daigle, and Rachal (2007), “student engagement is defined as active participation in the learning process” (p. 191). Further, in a study detailing efforts to develop a measure of student engagement, Handelsman, Briggs, Sullivan, and Towler (2005) identified four salient factors they labeled as emotional engagement, skills engagement, performance engagement, and participation-interaction engagement as components or dimensions of student engagement. Learning is an inherently individual process since each student tends to learn differently than others (Ramsey & Fitzgibbons, 2005). Individual levels of willingness or a readiness to learn is an important determinant influencing how well learning actually takes place, while actively involving learners in the process can also have positive implications (Davidhizar & Bechtel, 2000). Further, learning activities that tap into the emotions and feelings of students could have positive effects on students’ readiness to learn (Ramsey & Fitzgibbons, 2005).

With these points in mind, another important factor that merits special consideration is the overall culture or atmosphere of the classroom. There is evidence that students’ perceptions about the learning environment can impact their motivation to learn (Wooten, 1998). For example, in their study of 671 undergraduate students, Perlman and McCann (1998) reported that students’ primary pet peeves about teaching were the instructors’ intellectual arrogance and talking down to students, a lack of respect for students, and instructors who seem unapproachable. Additionally, Brewer (2008) argues that the atmosphere of the classroom is critically important and that students make an assessment within the first five minutes after entering the classroom about the safety of the environment. He goes on to state that “...students learn best in a state of relaxed alertness but may shut down to learning if the atmosphere is uncomfortable” (p. 52). This is important given Nilson’s (2010) argument regarding the importance of setting expectations from the first day of class. She reasons that what instructors do in the first class will affect students’ expectations and behaviors for the rest of the semester. Likewise, we believe that what instructors do before each class begins can have an enormous impact on expectations and behaviors for that particular class meeting.

The responsibility for creating an effective or positive learning environment ultimately resides with the faculty who are teaching the courses (Farkas, 2012). While college faculty typically complete rigorous coursework during the pursuit of their post-graduate degrees, they generally receive little training or guidance on effective teaching methodologies (Bickford & Van Vleck, 1997). Fortunately, there are numerous tools and

techniques faculty can adopt in their quest to facilitate student learning (Leong, 2005).

This article summarizes the use of simple strategies that have been proven useful to the authors in facilitating a positive learning environment in their classrooms. Specifically, the authors have discovered that playing music in the background prior to class and asking trivia questions prior to class can have positive implications on the classroom learning environment. The tone of this article is not intended to be rigorous, but instead, provides an illustration of how the authors have successfully used these strategies.

## The Use of Music

Have you ever watched a movie or commercial with the sound muted? If so, you can attest to the power of music. Faculty who have taught for any length of time are likely aware of the awkward silence that is often present in the classroom prior to the start of class sessions. As students become more accustomed to the instructor and their fellow classmates, this silence may be abated by the occasional chatter of students talking amongst themselves. Learning, however, is ideally a dynamic, energy-infused process that actively engages students in the journey of gaining knowledge. Contemplating possible remedies for this awkward silence along with the desire to create a more positive tone in the classroom led one author to identify music as a potential catalyst for change. Thus emerged a quasi-experiment where music was played in the background of the classroom prior to the start of each class. It did not require expertise in music. In fact, Brewer (2008) argues “the ability to recognize key effects of music and to understand how to use them to create a desired environment is all that is necessary for intentional use of music in the classroom” (p. 18).

From the first session with the students in a new semester, music was used in the 10-15 minutes before the start of the class period in an undergraduate business course. Early in the semester, the choice of music reflected either the favorites of the instructor or popular choices of the students from previous semesters. As the semester progressed, the choices tended to move toward music selected by the current students in the class. This allowed the students to have a voice in the class and helped develop a personal connection between the students and the instructor.

The pre-class time music appeared to affect the environment positively. Within a short time, the classroom, now filled with music, was more lively and upbeat. The wide variety of music that was played tapped into different student preferences, eliciting some interesting discussions and revelations about people’s music preferences. Familiar songs also created a sense of frivolity as students would commonly sing along with the lyrics of

well-known tunes. A previously quiet and unengaged group of students at the start of the class session now chattered away and was ready to, at a minimum, mentally engage in the class material.

## Anecdotal Summary of Benefits Associated With Using Music

In general, the students seemed to respond positively when music was played prior to the start of class. Following are some specific, anecdotal benefits that merit discussion.

**Increased learning:** Whereas no empirical studies were performed by the authors, anecdotal conclusions are consistent with current research that suggests the use of music can have small to large positive results. A breakthrough study published in 1993 found that listening to a specific piece of Mozart's work over a two-year period improved spatial-temporal reasoning ability (Rauscher, Shaw, & Ky, 1993). Other studies have also shown promise with respect to music and improved retention and recall of information (Mammarella, Fairfield, & Comoldi, 2007), emotional intelligence and creativity (Jensen, 2000), and reading and literacy skills (Register, 2001).

**Potential instructor-student personal connection:** It is not uncommon for previously quiet and reserved students to openly respond to the type of music played. This is a great opportunity to make personal connections with these students. Sharing common interests in music may open the door for communication, allowing the instructor to interact with students in ways that did not previously exist and could show students that the instructor cares. This is valuable to consider given research indicating that professional and personal qualities are valued by students and include wanting students to succeed and genuinely caring about each and every student (Helterbran, 2008).

**Increased social interaction:** The widespread ownership of portable music players is just one source of evidence related to the overall importance of music for individuals. Playing music before class changed the typical atmosphere in the classroom from one of dread that could accompany the thought of listening to another 60-90 minutes of lecture and discussion, to an atmosphere of enthusiasm where many students were interacting by discussing genres of music, bands, concerts, and the like. The challenge, then, for the instructor changes from one of engaging the students from a state of non-involvement to leveraging the energy in ways that facilitate the overall learning experience. Many times the music session was followed by a discussion of what type of music the students prefer, what other artists are in this genre of music, and alternate tastes. This allowed for open discussion that helped the instructor model the type of discussion or interaction that students desired throughout the course.

**Openness to use of music in class activity:** Although not part of the pre-teaching environment, music can also be used in class activities to meet educational objectives. The importance of playing music before class is reflected, to some extent, in the possibility that the students will associate music with a learning environment. Music can then be used to help meet an educational objective, such as using music lyrics as a way to identify strengths and weaknesses in a self-awareness assignment or activity (Hartman & Conklin, 2009).

## The Use of Trivia Questions

To create a better overall learning experience for students, two authors of this article endeavored to build course lectures around active and participatory learning practices that would not only expose students to requisite course concepts, but would also actively engage students in the learning process. Quite often, however, the level of student engagement or participation in these activities fell short of expectations. During early portions of course lectures, students tended to exhibit a general reluctance to participate in discussions or extension activities. However, as the lectures progressed, participation and engagement seemed to emerge. In an effort to get students more active earlier in lectures, two of the authors started the practice of asking trivia questions prior to the beginning of each class. This exercise typically involved asking students five to 10 trivia questions that usually had nothing to do with the business courses being taught or the content to be covered. The purpose in asking trivia questions that were not related to the course was to avoid creating any sense of perceived pressure to get the "right" answer. As such, this may have been viewed as a low-stakes exercise by the students wherein there were no material consequences for guessing or giving the wrong answer. The scope of questions ranged from mundane facts to utterly useless information. For example, one question might ask, what is a group of frogs called? (Answer: an army) The questions were typically obtained through a variety of resources readily available on the Internet. To generate possible trivia questions, the authors simply used search terms such as interesting trivia questions or fun trivia questions. During holiday seasons, some questions were chosen that were specific to the holiday. For example, during the Christmas season, the author would ask questions such as, what is the most popular Christmas carol? or on average, how many Christmas cards does an individual typically send each year?

Using trivia questions prior to the start of each class encouraged early student interaction. In his book on creative learning activities, Lucas (2007) mentions that interaction may generate a sense of energy and humor. That was certainly the case for one of the authors, with trivia questions such as, which type of

women's cosmetic product may contain fish scales? The answer is lipstick, which generated considerable laughter and buzz amongst students. This is encouraging because the use of humor can have a number of positive implications in the learning environment, including increased relaxation and readiness to learn (Davidhizar & Bechtel, 2000).

## Anecdotal Summary of Benefits Associated With Using Trivia Questions

Students seemed to respond well to the use of trivia questions prior to class. Following are some specific benefits that may be associated with the use of trivia questions prior to the start of each class.

**Generates humor:** Rapport and a sense of humor are among the characteristics students value in the faculty teaching their college courses (Faranda & Clarke, 2004). The use of trivia questions prior to class contributed to establishing a sense of rapport with students. While the exact reasons for this are unclear, students may have perceived the use of trivia questions as an indication that the faculty member cared enough about them and their learning to make the learning environment in the classroom more enjoyable. This is laudable given Leong's (2005) recommendation that faculty endeavor to "Create a learning environment where it is fun, open and interesting" (p. 131).

**Indirectly fosters critical thinking skills:** The use of trivia questions indirectly promoted the use of critical thinking since students relied on their tacit knowledge to generate possible answers or solutions that were then cognitively evaluated to determine their relative merit. Critical thinking skills could be developed through these activities since their involvement actively engages students in the learning process (Burbach et al., 2004). Aside from engaging in the identification of the answers to trivia questions, students often voiced skepticism about the validity of the answers. The author reminded students that all questions were pulled from the Internet, so the answers had to be correct. Obviously, this tongue-in-cheek statement generated additional laughter amongst students. The practical benefits of this, however, are worth acknowledging since the practice of evaluating the sources of information is among the important attributes associated with teaching critical thinking skills (McEwen, 1994).

**Infuses variety into the learning environment:** For even the most motivated students, the practice of routinely sitting through lectures that are hours long can be a daunting task. The use of trivia questions introduced an element of variety into the classroom that was well received by students.

**Encourages active engagement:** The potential benefits of getting students actively engaged in the learning process are well

publicized. Asking trivia questions prior to class proved to be an effective way to get students engaged in the interactive process early as they offer possible answers to the questions. In many cases, this early engagement spilled over into the lectures, with students demonstrating more interest as well as involvement in the course since they were already in participation mode.

**Permits mistakes in a low-stakes context:** For many students, assessment of learning represents a high-stakes activity, with perceived or real consequences (e.g., course grades) associated with requisite performance. Consequently, a fear of failure or of getting the "wrong answer" may limit the willingness of some students to venture into the learning process actively unless they are certain about the results. Using the trivia questions at the beginning of each class encouraged students to make guesses, attempt answers, and offer responses without the fear of undesirable consequences (e.g., a lower grade) that might accompany incorrect responses. This often translated into a higher likelihood that students would remain engaged during course discussions by offering insights, comments, and ideas related to course content.

## Using Trivia Questions—A Test

To evaluate the effectiveness of one of these strategies, one of the authors conducted a test in the business class he teaches where there is substantial class discussion. This is a class he has taught repeatedly, so he was completely familiar with leading discussions and was prepared for all class meetings. During the first half of the semester he held class with discussions as he had typically done in previous semesters. At the half-way point of the semester, the students completed a questionnaire regarding the class. At the next class meeting, the instructor announced that he would be using trivia questions to help promote student participation. At the beginning of each subsequent class meeting, with the exception of exam days, he would ask three or four trivia questions. He obtained the questions from open sources, and the questions were unrelated to the class. At the conclusion of the semester, the students completed the same questionnaire as at mid-semester with one additional question.

The survey consisted of questions modified from publically available faculty and class evaluation forms used at a variety of American universities, plus questions developed by the authors. There were nine questions selected pertaining to class structure, teaching, and student interaction all using a 6-point Likert scale where one (1) denoted "strongly disagree" and six (6) denoted "strongly agree". The tenth question appearing on both surveys asked students to rate the instructor overall. This was included to determine if using trivia questions changed the student's opinion of the instructor using a 10-point Likert scale. The end-of-semester, or after, survey included the following additional

question: The atmosphere of the classroom was more “fun” and “open for discussion” during this half of the semester compared to the first half of the semester. It was measured on a 6-point Likert scale. Table 1 provides a summary of the content from the survey questions.

**Table 1: Summary of Content for Survey Questions**

Survey Question Number	Content of the Survey Question
Q1	Student interest in the course prior to registering for the course.
Q2	Student comfort level participating in class.
Q3	Role of class format in making material/content more interesting.
Q4	Amount of student participation in the class.
Q5	Level of student preparedness for class.
Q6	Effectiveness of instructor in encouraging student interest in the class.
Q7	Amount of involvement in discussions and activities.
Q8	Instructional approach used that helped the student learn.
Q9	Amount of learning for the student in the course.
Q10	Overall instructor rating.
Q11	Overall atmosphere of classroom as fun and open during second half of the semester.

At both survey times, the same students were enrolled in the class. The survey was conducted during a class meeting, so not all students were present. The surveys were anonymous and, thus, were not able to be matched. At the mid-semester survey, 33 of 36 enrolled students responded. At the end-of-semester survey, 30 of 36 students responded. Ideally, it should be the same students responding to both surveys. Because nearly the entire population of students in this class responded, statistical testing was not considered appropriate. Our analysis was based on the changes observed in the mean, median, and standard deviation as well as an analysis of bar charts for each question and the response to the additional question contained on the “after” survey. The statistics are summarized in Table 2.

As shown in the results, there was a positive change in the median on four of the items. Question 2 evaluated a student’s self-reported level of comfort in participating in class. The median increased from 4.0 to 5.0 on a 6-point scale with the mean increasing by 0.19 points to 4.55. As shown in Figure 1, students’ responses tended to move up the scale toward more strongly agreeing that they felt more comfortable participating in class. This may indicate that using the trivia questions did help students feel more comfortable in participating. The standard deviation was slightly reduced, meaning, if anything, the class was more unified in their sense of comfort, having reduced the proportion of students feeling very uncomfortable. This is also reflected in the chart where more than 50% of students responded with a 5 rating. This change also may be due to having fewer students responding on the end-of-semester survey.

**Table 2: Distribution of Developed Cognates**

Question	Before (N=33)			After (N=30)			Differences		
	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev
Q1	3.24	3.00	1.28	3.03	3.00	1.20	-0.21	0.00	-0.08
Q2	4.36	4.00	1.23	4.55	5.00	1.07	0.19	1.00	-0.16
Q3	4.34	4.50	1.27	4.68	5.00	1.28	0.33	0.50	0.02
Q4	4.82	5.00	1.03	5.23	5.50	0.88	0.42	0.50	-0.15
Q5	3.97	4.00	1.17	4.23	4.00	1.17	0.26	0.00	0.01
Q6	5.09	5.00	0.83	5.10	5.00	0.94	0.01	0.00	0.11
Q7	3.79	4.00	1.17	4.07	4.00	1.34	0.28	0.00	0.17
Q8	4.67	5.00	1.27	4.63	5.00	1.25	-0.03	0.00	-0.02
Q9	4.76	5.00	1.02	5.33	5.50	0.79	0.58	0.50	-0.23
Q10	8.58	9.00	1.07	8.50	9.00	1.63	-0.08	0.00	0.55
Q11				4.93	5.00	1.12			

Note: Questions 1-9 and 11 used a 6-point scale; Question 10 used a 10-point scale.

Question 3 asked if the class format made students more interested in the course material. This question was included because asking trivia questions could be considered part of the class format. The median response increased by 0.5 points and the mean increased by 0.33 to 4.68 points. The standard deviation was close to unchanged. As displayed in Figure 1, students' responses moved up toward strongly agreeing. It appears they felt the class was more interesting during the period when trivia questions were included at the beginning of class. The response to this question may show that adding the trivia questions at the beginning of class was viewed by students as a positive change to the class format.

The amount of student participation that students believed was occurring in class was measured in Question 4. Here the median increased by 0.5 points, and the mean increased by 0.42 to 5.23 out of six points. The standard deviation was slightly reduced, similar to what occurred in Question 2. The increase in the median and mean shows that students perceived that there was more participation from the class as a whole since the inception of asking trivia questions, but this was limited. While Figure 1 shows that although some students moved toward agreeing that there was a great deal of student participation, others felt less strongly about this than earlier in the semester as reflected with fewer "strongly agree" responses.

There were also increases to the mean response for Question 7 regarding how much a student believed he or she actively engaged in class discussions. Here the mean increased by 0.28 to 4.07 points, indicating that students felt they participated more in the later part of the course when the trivia questions had been used. According to Figure 1, students' responses moved toward agreeing that they were more actively engaged in class.

Question 8 evaluated the helpfulness of the instructional approach for student learning. There effectively was no change in the mean or standard deviation. This may indicate that asking the trivia questions was not viewed by students as a significant pedagogical change.

The eleventh question only appeared on the end-of-semester survey and asked students if the class seemed more open to

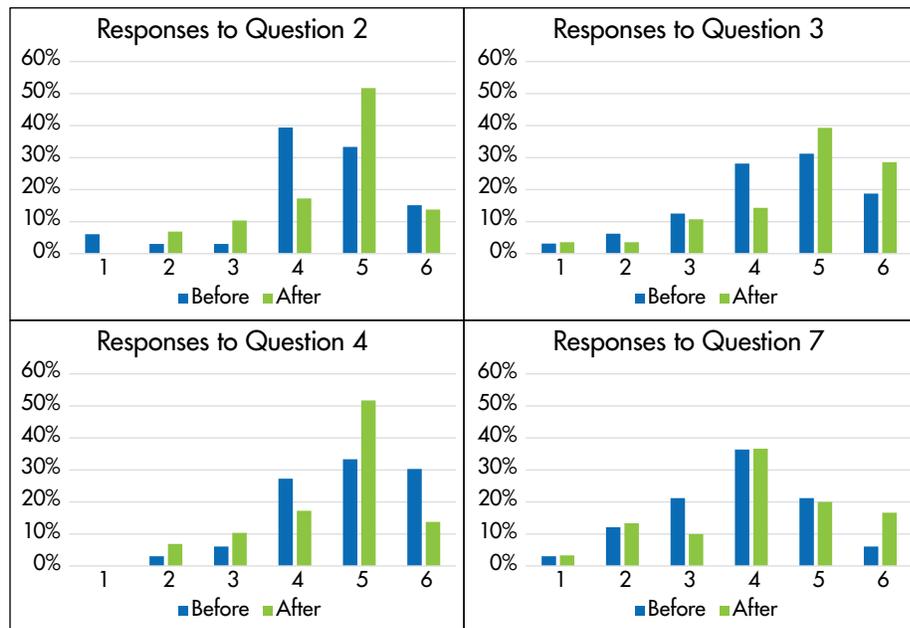


Figure 1: Charts of Student Responses to Questions Showing Notable Differences

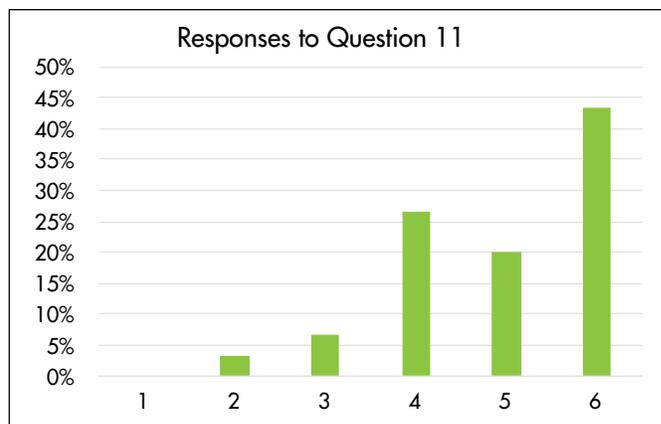


Figure 2: Chart of Responses Regarding Change in the Class Atmosphere

discussion compared to the first half of the semester. The mean score was 4.93 with the median at 5.0 points on a 6-point scale. Figure 2 reveals that the majority of students (63%) agreed that the classroom atmosphere was better when class started with the trivia time. This may indicate that students perceived asking trivia questions did encourage more active engagement because the class began in a "fun" manner.

The mean score was virtually unchanged for Question 6 about the instructor's effectiveness in encouraging student discussion. This makes sense in that asking trivia questions at the

beginning of class did not change the instructor's personality or his ability to formulate questions, respond to student remarks, or redirect class discussions. Additionally, there was consistency of the mean for Question 10 regarding the instructor's overall effectiveness. Both occurrences support that the positive changes noted in response to the other questions were attributed to something other than students' general feeling about the instructor's effectiveness.

These results and the conclusions drawn from them should be weighed cautiously. The study was limited to a single, semester-long class and single instructor. Additionally, the surveys were not matched to students in a pre- and post-test manner, and not all of the same students participated in both surveys (although a majority did). Both of these factors could impact the differences in the mean scores that resulted. In addition, a true experimental design would have included a control group, so the lack of a control group is a limitation that should be noted.

## Conclusion

As previously discussed, student engagement (Handelsman et al., 2005; Rachal, Daigle, & Rachal, 2007) and the culture or environment of the classroom (Brewer, 2008) are important factors in the overall learning process. This article outlined the use of music and trivia questions as possible pre-teaching strategies that may have positive implications on both student levels of engagement and the overall environment of the classroom. The anecdotal benefits summarized in this article may be bolstered by future studies designed to examine these two strategies empirically through appropriate experimental designs.

It is worth noting that the practical value of these strategies may be influenced by class size, with maximum utility associated with smaller classes where faculty can more actively engage with a larger portion of the class (Ramsey & Fitzgibbons, 2005). Class size is also important to consider given Arias and Walker's (2004) evidence that smaller class size may be related to better student performance. For example, it may not be practical or manageable to ask pre-class trivia questions to class sections with 40 or more students. Likewise, it may be difficult to use music in larger class sections as a conduit for student engagement or interactive discussions about music. However, the potential value of playing music in the background prior to class may have merit regardless of class size if the sole objective is to create a more relaxed classroom environment prior to the start of course lectures.

A final point worth noting is that the value of using music and trivia questions could likely be enhanced through efforts to match music elements and trivia questions more directly to course content. For example, it might be interesting to explore

how important events in the external environment may influence new music or songs. Students could be engaged by asking them to identify songs that mention important economic or political events. Likewise, instructors could play songs that they perceive as influenced by salient events and then facilitate discussions tapping into students' perceptions. Trivia questions could also be tailored to specific course content to more actively engage students in learning course material. For example, a lecture on the importance of brand recognition and market presence may be enhanced by showing logos or trademarks of popular companies and then asking students to identify the names of the companies. This could also facilitate a discussion about company mottos, mission statements, and values.

Using music and trivia questions represent two examples of strategies that might have positive implications in the college classroom. A single class was selected to test the use of trivia questions before class. It showed that incorporating the use of trivia questions may lead students to feel that the environment of the class was more fun and open to discussion, that students participated more, and that the course was more interesting.

Instructors are encouraged to adapt these strategies in ways that best facilitate learning in the context of their classrooms. Exploring other novel or unique strategies might help identify additional methods for faculty to consider in their quest to enhance overall student learning.

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