Teaching for Inner Growth

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“[Y]ou are asked to accept the poem’s challenge and to listen to, walk along, sing along and be with the poem ... ‘to become’ with the voices ... to reach for wisdom ... to create the act of becoming aware, attentive, active and transformed.” —Jay Wright

I aim to influence my students toward academic growth and inner growth. I want them to develop in terms of what they know and can do and in terms of who they are, how they live, and how they relate to others. This raises ethical issues. Perhaps I should just teach content and skills. And then, if I want my students to grow as persons, simply hope that goodness rubs off on them in the learning process.

At least one of my students has thought so. I had challenged his angry, knee-jerk reaction against an editorial he had read in the school newspaper. The editorial was written by a Native American student praising the university for hiring a staff person to support Native Americans on campus. My student chalked it up to “whining about race.” I tried to convince him that he had given the editorial a shallow reading. In doing so, I was teaching toward inner growth, if only in a small way. But he pushed back hard, insisting that my job was not to challenge his personal opinions but just to teach him how to write. My student seemed to realize that his ideas about social justice have to do with how he relates to others. But he failed to see—and this is what convinces me that I ought to teach toward inner growth—that ideas about social justice, including how one comes to them and maintains them in discourse, are also matters of critical reading and writing.

Questions of who we are, how we ought to live, and how we ought to relate to others can’t always be neatly separated from the subject matter we teach. For instance, in teaching argument, I tell my students to consider positions in opposition to their own in order not just to refute the other sides but to honestly listen to what others have to say. I make it clear that this habit is as important in the rest of life—in the workplace, in politics, in personal relationships—as it is in academics. Recently, another student of mine took this teaching to heart. He was writing about absentee fathers, drawing on the experience of his own childhood, and he told me, “I’d never even been able to consider my dad’s perspective before. ... I think this paper is changing my life.”

As I see it, the subject matter of the humanities courses I teach includes both understanding what it has meant to be human for various people in different times and places and taking part ourselves in the process of becoming more fully human. I suppose that the social and natural sciences also have something to do with both of these, at least sometimes.

The poet Jay Wright urges that reading literature should involve reaching for wisdom and transformation. I find myself compelled to teach my students not only that Jay Wright has said this but also that they themselves could—and probably ought to—do what he describes.

My primary method for teaching toward inner growth is not to teach a moral code but rather to teach reading skills. The assumption is that reading well tends to lead toward positive transformation, especially when inner growth is an explicit purpose. Had my racially insensitive student read well, even if he ultimately did not come to agree with the editorial, he could have been changed as a person for the better. If my student with the absentee father had not read well, he could have missed out on being changed for the better.

Reading for inner growth requires a different approach than just reading for information. Briefly, here’s what I teach my students:

• Be open to change, understanding that what you read can matter for who you are, how you live, and how you relate to others afterward.
• When reading essays, tend toward reading generously instead of immediately being critical.
A Learner-Centered Approach Affects Motivation in One Course

Most of the time research evidence grows by bits and pieces—not all at once, and the evidence documenting the effectiveness of learner-centered approaches is no exception. It continues to accumulate, as illustrated by this study time. It occurred in a third-year pharmacotherapy course in a doctor of pharmacy program. The students were randomly assigned to five- and six-member groups, with each group being assigned a patient case with multiple drug-related problems. Students in the groups had to jointly work through the case and prepare a detailed course of recommendation as well as some alternative plans. They had to provide classmates with a list of key learning points and reading references. Each group presented its case to the class. The presentation was critiqued by another randomly selected group, and then the faculty discussant provided feedback. Based on this feedback, the group could choose to revise and resubmit its case plan for the patient. The groups could also opt to complete several optional assignments.

To measure the effects of this learner-centered experience, the researcher had students complete the Motivated Strategies for Learning Questionnaire (MSLQ), a widely used empirical instrument, before the course began and then again at its conclusion. At the end of the course, students also assessed the extent to which this learner-centered approach facilitated their preparation and learning.

The MSLQ includes six measures of motivation. The comparison of pre- and posttest scores revealed improvement at statistically significant levels for three of those scales: intrinsic goal orientation (a measure that focuses on learning and mastery), control of learning beliefs (beliefs that outcomes are the result of effort rather than luck), and self-efficacy (beliefs about competence and ability). Although not significant, there were also improvements in test anxiety and task value (judgments about the interest, use, and importance of course content). As for the learning strategies, there was significant improvement for two of the nine subscales: critical thinking and metacognitive self-regulation.

The researcher expected that MSLQ subscale scores would correlate with exam performance, but that relationship did not emerge in the data. ‘A possible explanation is that the learner-centered approach may have made students less interested in their grades, as suggested by the majority of the students reporting that they focused on learning rather than just obtaining a good grade.’ Also the magnitude of improvement was small and not present for a number of the subscales.

Despite this, students were uniformly positive in their assessment of the experience. Seventy-one percent agreed or strongly agreed that the approach enhanced their ability to learn the material; 88 percent agreed or strongly agreed that they were able to learn the material and obtain the grade they desired. More than 76 percent thought working with other students reinforced the material more than did studying alone, and more than 75 percent said they would rather take a pharmacotherapy course using a learner-centered approach.

As the researcher notes, the rapid development of technology and drugs within this field makes it essential that students “be motivated to become lifelong learners rather than allowed to learn ‘just what is necessary to pass the test,’ if they are to provide quality care to their future patients.” A similar assessment applies to student learning in almost any field nowadays.

Let's detail the scenario a bit more completely: it was a senior-level cell biology course. Before lab sessions, students completed a prelab assignment for which they were instructed to write three specific, concrete questions that arose as they read the laboratory exercise and thought about the upcoming experiments. (p. 132) Students submitted the questions before each of eight lab sessions. They received full credit for their questions as long as they followed the guidelines, which prohibited certain kinds of questions, such as those asking for the definition of a word. They received some feedback on their questions, such as those asking guidelines, which prohibited certain kinds of questions, such as those asking for the definition of a word. They received some feedback on their questions, such as those asking for the definition of a word. They received some feedback on their questions, such as those asking for the definition of a word. They received some feedback on their questions, such as those asking for the definition of a word.

Researchers were interested in three questions about the student questions: 1) what types of questions did the student ask? 2) did the type or level of questions change over time? and 3) was the quality of the questions or the degree of improvement related to academic performance in the class?

To classify the types of questions asked, researchers looked to the literature. They found help there but ended up developing their own typology of questions. Here's a brief summary of the system they used.

**Category 0:** questions that do not make logical sense, are based on fundamental misunderstanding, are too general to be meaningful, or are irrelevant.

**Category 1:** questions about a simple definition or expected knowledge or questions answered in the reading material.

**Category 2:** questions answered by direct observation in the lab.

**Category 3:** questions that go beyond what will be seen in the lab but do not address mechanisms or explicitly integrate information. They include questions about evolution and purpose.

**Category 4:** questions asking about mechanisms or how things work at a cellular or molecular level.

**Category 5:** questions that reveal extended thought and integration of information; questions that include a prediction or hypothesis about a possible follow-up experiment. They are often questions that explore a paradox or something puzzling.

As for the questions of these students, they asked questions that fell into each of the categories. For the term as a whole, the majority of the questions fell into categories 2 and 3. Despite this, 90 percent of the students wrote at least one category 4 question and 60 percent wrote at least one category 5 question.

But did they write better questions across the course? “As a whole, the class became slightly better at generating the scientifically testable questions we consider necessary to the practice of science. When considering Lab 1 as a pretest, gain scores were positive though not large, there was a slight increase in categories 3, 4, and 5, and 64% of the class showed an increase in quality.” (p. 137) Shortly after, they write, “However, this increase in questioning ability was neither linear nor dramatic. Our expectation was that students would gradually become better at writing questions with practice. Instead, we found that best performances were scattered throughout the term.” (p. 137) Furthermore, the quality of the questions asked was not a predictor of performance in the course, even for the very best question asked. The four students who asked at least one category 5 question for half or more of the labs earned the following grades: A-, B-, C, and C.

The researchers note that they did not provide explicit instruction in how to generate questions. “Our hope was that the practice of asking questions would increase students’ question-asking ability.” (p. 138) An anonymous survey at the end of the course revealed a mixed endorsement of this question-generating assignment. Some students reported that writing the questions did help them prepare for lab; others found it a tedious, time-wasting assignment. Beyond helping them prepare, only 38 percent of the students noted any other benefit from the assignment.

There was improvement, but the small degree caused the researchers to offer this final comment on this question-generating activity. “[It] suggests that ‘learning by doing’ is not enough to yield dramatic improvements in this particular cognitive skill, and that more explicit guidance and discussion may be required.” (p. 138) That conclusion supports a finding consistently reported in other research: students don’t effectively develop complex learning skills (in this case, asking higher-order questions) without instruction on the skills. They improve some, but not nearly as much as when they are taught about the skill explicitly—in this case, what kinds of questions there are, illustrated with examples; how the simple questions can be used to lead to the more complex ones; and why the more complex questions are more illustrative of scientific inquiry.

The 2010 McGraw-Hill and Magna Publications Scholarly Work on Teaching and Learning Award was given at The Teaching Professor Conference, May 21-23. A review committee composed of editors of pedagogical periodicals and faculty developers selected the winning article and two finalists. Here are the highlights from all three.

The winning article


An article about this interesting piece of scholarship appeared in the May 2008 issue of The Teaching Professor. We are proud to have recognized the quality of this article before it was nominated for this year’s award. (Your newsletter editor oversees the selection process but does not participate in the deliberations.) Here are some excerpts from our May 2008 article.

Finance faculty at Seattle University were concerned about the critical-thinking skills of their majors. How they decided to assess those skills and what they discovered is an interesting story. Traditionally, critical-thinking skills are measured with standardized tests, the Watson Glaser Critical Thinking Appraisal and the California Critical Thinking Skills Test being among some of the most well known. These tests separate critical thinking into various skill sets, including things like making inferences and recognizing assumptions and fallacies. They measure critical-thinking skills generally, which caused the Finance Department faculty to worry that results would not give them detailed information about how their majors applied critical-thinking skills to the kind of financial problems they would face as professionals.

They opted instead to assess the critical thinking more holistically by using an open-ended problem that involved finance content. They had their students write a two-page memo to a set of clients (a husband and wife) who needed advice on two different investment options for the wife’s retirement savings. Student memos were scored by faculty in the department, using a six-point rubric they had developed collectively. Two faculty scored each memo. If their scores differed by more than a point, a third faculty reader was involved.

What they discovered was not especially pretty. Scores did not follow the expected bell curve but were mostly clustered on the low side of the scale. Four critical-thinking problems emerged regularly in the student memos. First, students failed to address the clients’ problem and make a recommendation—which was what the clients had asked them to do. Excerpts from student memos that illustrate this omission are included in the article. Next, students did use finance tools but their application was random rather than purposeful. For example, students would attach statistical analyses to the memo but never discuss why they were included or how they should be interpreted. Third, many students could not explain finance concepts and methods in language meaningful to clients unfamiliar with the field. This was more than just a rhetorical problem. “We believe it may also indicate an underlying critical-thinking problem. When students use financial jargon, including abbreviations ... it may indicate that they are not comfortable in their knowledge of the concept—especially when they provide no explanation of the tool or how it is employed in the analysis.” (p. 19) And finally, many of these students did not construct useful graphics. They included graphs, but often they were not appropriately labeled or not ones that might help the clients understand the relative value of each option.

These are not easy findings to accept. Hats off to these faculty, who looked at the results and discussed them collectively. “What became glaringly obvious in discussion among finance faculty is the extent to which students were being asked to demonstrate skills they had never been explicitly taught or asked to practice.” (p. 21) The curriculum did teach students how to use sophisticated mathematical tools, but less often did it address when or why to use them. Students weren’t assigned messy homework problems. They were given problems with right answers, but rarely were they asked to justify a particular answer in light of plausible alternatives. The curriculum also provided few opportunities to write for lay audiences. Faculty are trying to address these problems by incorporating more ill-structured problems in courses and using a variety of teaching approaches that give students experience working with these kinds of problems. Faculty have also changed homework assignments.

The article is noteworthy because it offers a unique, yet viable way of assessing critical thinking. It offers the kind of feedback that motivates faculty to act. It most definitely is an article worth reading and sharing with colleagues in your department.

A finalist article


If you, like many profs, have concerns about Wikipedia, this article is one not to miss. Elizabeth Pollard, a history pro-
In her article, Pollard identifies the concerns most of us have about Wikipedia, and then she asks, “How can we take these problems and turn them into a significant teaching moment for students?” She concluded, and what problems she (and the students) actually encountered. She contemplated, and what problems she anticipated, and what problems she (and the students) actually encountered. She concludes with an insightful evaluation of the assignment that ends with a list of changes she proposes to make the next time she uses the assignment.

In her concluding summary, Pollard notes that from student feedback she learned that “the most significant benefit of the innovation was the sense of personal achievement and ongoing engagement in the learning process. ... From the perspective of creating lifelong learners, the most significant outcome was ongoing engagement with the process, with many students noting they will continue to update and check on their entry and even add new entries as they learn more about other topics in other classes.”

The article demonstrates how much can be learned from a thoughtful and thorough analysis of an instructional innovation. It goes well beyond the “Hey, I came up with a great idea, I tried it, it worked, and my students liked it.” It explains the rationale for the assignment, admits that it didn’t go perfectly, and shows how objective feedback from students can be used to review and further refine what has been developed.

A finalist article


In this study, library faculty who provide information literacy instruction for a first-year writing course wondered about the relative effectiveness of three different instructional approaches: online instruction only, live (as in face-to-face instruction), and a hybrid model that combined face-to-face and online instruction. Among a variety of research questions, the team wanted to know whether the format of library instruction impacted student learning outcomes, whether the method affected student satisfaction with the instruction, and whether it influenced students’ assessments of their own research abilities.

The sample included 12 sections of the writing course, a total of 224 students. All students took a content-based pre- and posttest. The hybrid group had the greatest improvement in test performance. The students who experienced face-to-face instruction showed the second-highest improvement. This caused the research team to conclude that “contact with a librarian is an important component of learning.” (p. 339)

As for student satisfaction, it was about the same for all three approaches, although there was a bit less enthusiasm for the online-only instructional approach. The same finding was true of students’ assessments of their research abilities. With all three approaches, students reported improved research abilities. With all three approaches, students reported improved research abilities, but the statistical differences between the approaches were not significant.

This article shows the value of asking applied research questions. In this case they were used to explore the impact of various instructional approaches with the results then contributing to informed decision making about particular instructional strategies. This is research that affects practice!

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**INNER GROWTH**

**FROM PAGE 1**

- When reading fiction, aim to empathize with the characters.
- When reading poetry, aim to be moved by images, tone, and the sound of the words.
- Read slowly, meditatively, recursively, and actively.
- Read with a pen or pencil in hand, underline and circle things, make notes, and write questions in the margins.
- Reread parts of texts.
- Discuss what you read with others.
- Practice reflective writing in response to what you read.
- Understand that most of the time change happens as a slow, gradual process.

In teaching these practices and dispositions, I teach my students in practical and concrete terms how academic work can have something to do with inner growth.
Defining and Implementing Inquiry Instruction

We do have lots of trouble with terminology in higher education. Ideas become popular without ever being clearly defined or without practitioners being aware of or using proposed definitions. There are many examples, but the work highlighted here looked at how faculty members teaching undergraduate science courses defined inquiry-based instruction and how they described “the challenges, constraints, and opportunities” associated with teaching inquiry-based labs. (p. 784)

Researchers used a qualitative methodology that involved interviews with 19 life sciences and physical sciences faculty members. The researchers defined inquiry using five essential features identified by the National Research Council (NRC) in 2000: 1) learners engage in scientifically oriented questions; 2) learners give priority to evidence in responding to questions; 3) learners formulate explanations for evidence; 4) learners connect explanations to scientific knowledge; and 5) learners communicate and justify explanations.

Based on their interviews, researchers generated four assertions that describe commonalities among the views of inquiry held by these faculty.

**Assertion 1: Inquiry involves students in generating authentic questions and carrying out independent research.** In the lab then, this means students are asking questions, designing experiments, and collecting data. If inquiry occurs in the classroom, it is unstructured and student-directed.

**Assertion 2: Students and logistical factors constrain implementing inquiry-based instruction.** Students aren’t motivated. If they are beginning students, they lack prerequisite knowledge and skills. As for the logistical constraints, faculty identified a lack of time (inquiry-based approaches are time-consuming), large classes, and physical facilities. These faculty saw traditional labs as being more structured, efficient, easier to plan and prepare, and more accessible to nonmajors.

**Assertion 3: Inquiry-based approaches are more appropriate for upper-level courses enrolling majors.** Major students are committed to the sciences and have more interest in doing inquiry. They also have the knowledge and skills necessary to complete it successfully.

**Assertion 4: Students benefit from inquiry-based instruction.** It is an approach that engages and motivates students at the same time it develops problem-solving skills. From inquiry-based experiences, students learn more about the nature of science.

In their discussion of these faculty beliefs about inquiry, the researchers note that these faculty held a “full and open inquiry” (a NRC description) view, wherein they thought inquiry-based instruction was totally student-driven, with students asking questions, designing investigations, and collecting data.” (p. 798) Understanding inquiry in this way does make it difficult to implement, whether there are 20 or 200 students. It also explains why these faculty saw inquiry-based approaches as inappropriate for beginning students.

Researchers see this faculty view of inquiry as being incomplete and one “that constrains college science faculty from considering inquiry-based approaches.” (p. 799) They recommend a broader view that sees a continuum of classroom inquiry. At one end of the continuum, teachers completely guide the inquiry, while at the other end, it is fully directed by the students. It need not be all or none. They also propose that the inquiry itself can occur in degrees from none to partial to full. The article includes examples of how these less-than-full uses of inquiry could be accomplished in labs. “Using the inquiry continuum, faculty could design laboratories and lectures that encompass the essential features of inquiry with varying degrees of openness and amounts of inquiry.” (p. 800)


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The Truly Heroic

“Forget Robert Donat or Peter O’Toole in Goodbye Mr. Chips, Sidney Poitier in To Sir with Love, Edward James Olmos in Stand and Deliver, Robin Williams in Dead Poets Society, Jon Voight in Conrack, Richard Dreyfuss in Mr. Holland’s Opus, Michelle Pfeiffer in Dangerous Minds, or Kevin Kline in The Emperor’s Club. These are excellent fictional portrayals of powerful individuals whose personal authenticity and pedagogic brilliance illuminate the mediocrity surrounding them. But they are bad role models (at least for me). Teaching is not about charismatically charged individuals using the sheer force of their characters and personalities to wreak lifelong transformations in students lives. It’s about finding ways to promote the day-to-day, incremental gains that students make as they try to understand ideas, grasp concepts, assimilate knowledge and develop new skills. All the small things you do to make this happen for students represent the real story of teaching. Helping learning is what makes you truly heroic.” (p. 278)

Despite repeated surveys indicating that employers and recruiters place high value on the ability to work productively with others, not all faculty endorse group work or use it regularly in their courses. They worry that the groups don’t take the tasks all that seriously, that the information exchanged within groups isn’t always accurate, that groups handle conflict poorly, and that some group members let others in the group do their work.

A team of marketing faculty wondered about these faculty assumptions and decided to systematically “investigate how student perceptions regarding teamwork compare with those of their instructors.” (p. 41)

The student cohort surveyed consisted of 583 students taking one of four marketing courses. Each of the courses included a “significant” group project—one that lasted the whole semester and involved such things as primary and secondary data collection, data analysis, and a major written and oral presentation.

The groups ranged in size from two to six, with the modal group having four members. They were asked to keep this recent group experience in mind as they responded to items on the survey.

The faculty cohort was solicited electronically via an electronic marketing newsgroup. The 134 who completed the survey were from a range of different kinds of institutions, most were assistant or associate professors, and on average they had a bit more than 11 years of experience as college teachers.

The results showed stark differences between faculty and student perceptions of group experiences. “Compared to students, faculty had a much lower appraisal of what happens when students work in groups.” (p. 42)

The highest item rated by students (it received 6.0 on a 7-point scale) was “group had few arguments.” Researchers also looked at how many students in the cohort gave the item the highest possible rating. In this case, 54.4 percent gave the highest rating to the item on arguments. No faculty gave that item the highest rating, and the faculty mean for that item was 3.9. The highest faculty-rated item inquired whether group members “worried about grades.” They rated that item 6.1 on the 7.0 scale. Students rated it second from the lowest, at 3.8.

The same degree of differences showed up on the portion of the survey that explored perceptions of group cohesion, conduct, and trust, as well as the portion on the effectiveness of group processes—things such as whether the groups resolved conflict effectively (the student mean here was 5.7 compared with the 3.9 rating given the item by faculty) and whether they saw the effectiveness of the group as a learning tool (student rating 3.1; faculty rating 1.8).

“Although we expected to find some differences between the groups, we were not prepared for the magnitude of the gaps that seemed to exist. It appears that faculty are tremendously more pessimistic about the experiences that students have with their group activities compared to the students’ self-assessment.” (p. 44)

They go on to point out how these negative perceptions likely influence faculty attitudes and behaviors toward group projects, making them less likely to use group activities. They wonder if some of these negative perceptions aren’t the result of faculty having to deal with only the groups that have problems. When groups are working well together, they don’t seek the professor’s help, so a teacher’s experience with dysfunctional groups colors the perception of group work generally.

It is important to bear in mind that this study was of faculty and upper-division students in one discipline. However, the best part of this study is that the article reporting the results includes the survey questions. They could be used in your class. Complete the survey as you administer it to students and then compare your results with theirs. Do you think you’ll find the same differences?

Three Strategies for Teaching When the Content is Not Well Known

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In the wake of budget cuts and other financial constraints, the reality of teaching liberal studies requirements outside of one’s department or major area of expertise is becoming more common. As new faculty, we were assigned to teach two required, liberal studies courses containing content beyond our areas of expertise. It was a challenging experience but one from which we learned a great deal. In this article we will share four aspects of instruction we found crucial and would recommend teachers in similar situations attend to closely.

Emphasize syllabus: As we discovered, syllabi can vary greatly from department to department or college to college. Although certain elements such as course objectives, assignments, evaluation, and attendance are present in most syllabi, we found vast differences in the detail with which those elements are presented. In addition to presenting salient information about the course, it is important to explain not only what you do but why you do it.

In our education department, syllabi can be quite detailed. We include matrices that display how course assignments align with national and state standards, and detailed descriptions of assignments with accompanying rubrics. Our rubrics highlight the important criteria of the assignments, which means we can devote less class time to explaining them. We assumed students in the liberal studies courses would understand rubrics, but as we discovered, many were not accustomed to the forms of assessment we normally use. The students in the liberal studies courses also felt that our attendance policies were too stringent. They were used to those large courses, where so long as you pass the test, attendance isn’t an issue. We learned it was important that students understood that our attendance policies were not in place because we were tyrants but because of the theoretical perspectives from which we teach.

Build community: When teaching in new areas, it is essential to understand something about the majors of students enrolled including their course expectations. We recommend starting the course with a genuine desire to get to know the students. This allows them to feel comfortable in a course that is outside their major and taught by a professor that they do not know. We found it works both ways. We needed to allow students to get to know us, our department, and course expectations.

We were used to courses where students knew each other from having taken other courses together. These students hadn’t been together before, and so we had to spend time getting them comfortable with each other. This took more effort than we anticipated, but it was worth the time we devoted to it. We saw that when we put students in groups. They encouraged each other’s communication and developed a sense of community as they worked together.

Recognize differences in teaching and learning styles: Because we typically teach pre-service or in-service teachers, we regularly employ cooperative learning techniques in our teaching. We quickly found that many students from other majors were uncomfortable working in small groups, reporting their findings to the group, and sharing their opinions in class. We found that we needed to explain to our wary students why we use cooperative learning techniques. Before the students would “buy in” to our teaching style, they rightfully needed to understand the benefits. Through discussion of our expectations and teaching styles, we were able to move these students to a level of comfort with cooperative learning that allowed them to actively participate and succeed in our courses.

Create participation structures: Courses where lecture is the primary vehicle for delivering course content require much less interaction than our courses do. We regularly use participation structures such as literature circle roles and exit slips, and we routinely stop mid-lecture to have students to “pair share”. We took for granted that the students would “get it” when we grouped them or asked them to participate using one of these structures. But instead they were confused and reluctant to get involved. We found we needed to be explicit when we used these strategies and scaffold our students into the participation structure, beginning with pair shares and brief periods of interaction.

Teaching and learning outside of one’s “comfort zone” can be daunting for both students and professors, but utilizing these strategies can make the experience more successful for everybody involved.

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