

What Do Students Think They (Should) Learn at College? Student Perceptions of Essential Learning Outcomes

Paul Walker¹

Abstract: Building on the evidence that administratively determined outcomes for cognitive growth provide only a partial understanding of what is actually learned at the university level, this study puts forward a method to increase the use of student perceptions to determine the quality of a university education. To show the complexity and value of seeking to understand students' learning expectations, over 80 juniors and seniors at a state university participated in a survey wherein they identified five things that everyone should learn at college, and evaluated and described how those expectations related to their courses, faculty, and grades. The students' responses show that they have a wide range of learning objectives that fall unequally under three categories: Academic Content, Career/Academic Skills, and Life Skills. Student responses suggest that learning is often independent of courses and instructors, and that grades are not always indicative of what is learned in classes, suggesting that more could be done institutionally and in classrooms to better align what teachers intend to teach and what students expect to learn.

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At the end of each summer, collegiate rankings garner the attention of many mainstream media and their readers, who may also pay attention to the numerous and consistent critiques of the ranking process. Most educators, even if critical of the rankings, can't help but be interested in the position of their own and various institutions in these rankings, because being ranked or mentioned in these lists can create a flurry of admissions activity that can be residually beneficial. Yet significantly, attempts to connect these rankings with actual cognitive growth that takes place in students after admission have been inadequate (Kuh, 2001). The notion that ranked factors influence the "nature and degree" of intellectual development rests on little evidence, and the multitude of factors across thousands of universities hinder a full understanding of what our college students are actually learning, despite ambitious efforts to find out. So the "faith-based" (Hersh, 2005, p. 140) admissions flurry continues at the top-ranked schools while other stakeholders, including faculty and employers, seem to continuously complain of underprepared students or employees.

Especially for student-centered faculty who teach at universities not ranked at the top, what students learn between admission and graduation is integral for their students' future career success because those students, in many cases, won't be able to exploit the reputation of their school following graduation. However, finding out *what* students learn is a difficult task because, in general, students are tested on what they are supposed to learn rather than asked what they did learn. Furthermore, we teachers often assume that our instruction of content will match the

¹ Department of English and Philosophy, Murray State University, 7C Faculty Hall, Murray, KY 42071, paulr.walker@murraystate.edu.

students' interpretation of that content, exacerbating the gap between our intent and their reception. Realistically, even when we plan, outline, and evaluate clear learning objectives that can be met through assignments and readings that align with those objectives, what we end up covering in our classrooms and what our students actually learn over the course of a semester may not be exactly what we anticipate. As Cross (1975) stated more than 30 years ago, "the typical American college has three curricula – what we say we teach, what we do teach, and what students learn" (p. 54).

I. The Study of Learning.

Scholars and educators, of course, have tried to collect information on student learning throughout the years. Most recently, the 2007 National Survey of Student Engagement studied activities that promote "deep learning" (Lipka, 2007, p. 1) In the past, Pascarella and Terenzini included the category of "cognitive skills and intellectual growth" in a broad survey of students across the United States, described in *How College Affects Students* (1991, 2005). Astin similarly surveyed students nationally for "growth in knowledge and cognitive skill" in *What Matters in College* (1993). Additionally, the National Center on Postsecondary Teaching, Learning, and Assessment published the *National Study of Student Learning* in 2001. The *Student Learning Imperative* was another large-scale study completed in 1994 by the American College Personnel Association. The broad views and analytical potential provided by these and other studies are invaluable; yet a close examination illustrates that the primary outcomes of these studies tell us more about factors that influence learning than what is actually learned. Even field-specific studies evaluating the relationship between writing and learning (see Bazerman, 1995; Ede, 2004; Herrington and Moran, 1992; Kent, 1999; Russell, 1992) are based on the seemingly dominant goal of student learning studies in the past few decades -- to examine "the influence of academic and nonacademic experiences on undergraduate learning and orientations to learning" (Pascarella, 2001) without overtly indicating specifically the intellectual or cognitive growth that occurs as a result of those experiences.

Another approach to student learning studies is based on the premise that data to determine the *learning quality* of higher education are not available, consistent, or more commonly, not collected (Hersh, p. 140). Kuh (2001) describes a study titled "Measuring Up 2000" confirming as much:

The report assigned grades to each state on five of the six key performance indicators. However, in the area of student learning, all 50 states received an "Incomplete." There just wasn't enough evidence across all the states to evaluate the nature and degree of the impact of college on students (p. 10).

As a response to such a conclusion, a recent program, the Collegiate Learning Assessment Project (CLAP), claims to be able to measure student learning across campuses using performance and analytic tasks. The CLAP "evaluates students' ability to articulate complex ideas, examine claims of evidence, support ideas with relevant reasons and examples, sustain a coherent discussion, and use standard written English" (Hersh p. 142). According to the co-director of CLAP, findings show that "which school a student attends *does* make a difference" (p. 143). Still, despite the valuable assessment criteria, the focus is on what teachers intend students to learn, not on what the students perceive to learn, and one has to question whether such a general assessment can accurately represent four years of informational processing and experiences at any institutionally and culturally unique university.

Therefore, it is useful to consider additional methods to uncover the content of the learning that takes place on college campuses. As described above, several studies of student learning dance around the topic by measuring factors that influence learning. Others, like CLAP, attempt to measure students' ability to develop cognitively in areas that are *predetermined* as essential for learners. Outlining conditions and strategies that influence learning and assessing outcomes across institutions are beneficial and viable, but these studies have not shown if those influences and outcomes align with student perceptions of what is learned at the university level. The opportunity for participating students to reveal independent, non-determined variables in regard to their own learning is not fully realized because, as Kuh (1998) wrote, educators have difficulty "dropping their tools" (p. 17) – tools that include making the decision about what students are supposed to learn.

Thus, the study that I describe here represents a different perspective from the usual inquiries regarding student learning by allowing participating students to reflect on what they believe they should learn and what they have learned, rather than reflecting on or performing predetermined outcomes.

II. The Value of Student Perceptions.

In framing this discussion as a way to embolden the voice of the students in what they are learning, I don't discount the expertise and wisdom of educators that have researched, taught, and built upon the work of each other to establish certain outcomes that are valuable to society (like those that CLAP measures). Nor do I seek to overestimate the ability of students to determine what is important for them to learn during their four years as a university student. Rather, by providing a voice for third- and fourth-year students in identifying what they consider are the most important things to learn at college, we can add those insights to the rich collection of faculty and administrative voices on the topic of improving student learning.

I recognize that for various reasons, we don't often consider the student perspectives on learning outcomes, relying mostly on our own expertise or the expertise of others in our fields to determine our curricula and course objectives. But I agree with Schunk (1992) and others who believe students to be "active information processors who affect classroom events as much as they are affected by them" (p. 3). Furthermore, it has been shown that how students "exploit academic opportunities" is as influential on the "nature and extent of knowledge acquisition" as coursework and instructional activities (Pascarella and Terenzini, 2005, p. 119). McDermott (1991) emphasizes the ability to transfer knowledge as evidence of that "exploitation," and favors a constructivist approach wherein the differences between the perceptions of the students and the instructor is taken into account (p. 304). Under the teacher-driven, basic-principles-of-a-discipline approach, some students will learn what we hope they will learn (McDermott believes that only those who want to major in the discipline – 1 out of 30 in an introductory class – will learn by this approach), but others will learn startlingly different concepts than we envision, because their "prior theories," to use Davidson's (1986) terms, are not in line with ours, and thus our "passing theories," or attempts to bridge the differences among "prior theories," often fall flat. We teachers have valuable information that students would benefit from learning; we simply must be careful in our insinuation that because a subject is taught, students actually learn what we perceive as the essential aspects of that subject.

Dubin and Taveggia (1968) determined that students bring the most important factors to the "teaching-learning situation," including choosing a course, knowledge to make judgments on

the content and quality of course, and “culturally derived expectations and behaviors which comprise what we loosely summarize as the motivation to learn” (p. 7). Similarly, Norman (1980) surmised that “the student comes to the learning situation with a large set of preexisting ideas, and the material that is presented is interpreted according to those ideas” (p. 42). Thus, acquiring new knowledge is dependent on “active interpretation on the part of the student” (42). Pintrich (1988) adds that “while instructors can design tasks to facilitate student learning, students are ultimately responsible for their own learning.”

In addition, asking students to reflect on their own prior or continuing expectations can be useful, symbiotically, to their own learning. According to Gonyea, (2003), understanding students' perceptions uncovers how “expectations influence experience so as to construct what becomes reality for the individual” (Gonyea, p. 2). Furthermore, “when directed at the institution, [an expectation] is more of a requirement – a condition by which the student will measure his or her contentment with the institution” (p. 2), meaning that reflection or setting of expectations will influence future cognitive experiences for the student.

With these perspectives guiding my intent to inquire regarding student perceptions of their own learning, I designed and conducted a survey to find out what students expect to learn and their perceptions of what they do learn, hoping to understand how we, as educators, can address their learning expectations. My study, though limited to a sample of students at one university, illustrates how Cross's "three curricula" blend and don't blend, often in surprising ways. The participants' responses show their honesty about what they perceive as needing to learn at the university level and their perceptions *do* reflect broad areas that we, as teachers, hope students learn, along with much more life-based agenda that can influence classroom behavior and performance as much as the teacher's facilitation of content. It is helpful, therefore, to keep in mind for this study and for our teaching that “over the centuries, we have refined our definitions of learning to mean a certain kind of school learning, and educational systems have been geared to nourish a narrow range of human talent” (Cross, 1976, p. 12), which, when defined as “the ability to manipulate the abstractions of academe” (Cross, p. 12), is estimated to be one-tenth of human ability (Taylor, 1968). Recognizing how students' experiences and gathered knowledge affect how concepts are received, interpreted, and applied can help us better understand multiple realms of learning, and collecting student perceptions seems to be a prudent alternative to the aforementioned performance-based assessments that are limited to measuring school-based and predetermined learning outcomes.

III. Research Design.

While finding out “what we say we teach” would require the straightforward, yet tedious, collection of representative syllabi from around the country, identifying what is actually taught and actually learned at college are much more complicated. The CLAP, for example, using task-based exams to measure functional learning outcomes, ultimately lacks the capability to assess the more theoretical content around which many courses are designed. This study attempts to address the measurable, functional aspects of learning as well as the content that is lectured, discussed, and examined by relying upon students to identify their own learning expectations and actualities in their college experience.

In November 2005, I developed an online questionnaire that asked students about their learning and if the courses and faculty facilitated their acquiring the knowledge they expect to gain. The questionnaire, which was not required, was made available to my students in two

sections of a technical writing course at a mid-size state university. Out of a total of 55 students, 41 responded to the survey. All students in both classes were either juniors or seniors, so they had at least two college years of experience to draw on in answering the questions. The topic of the course was not intended to be relevant to the study, but the results show that students listed several aspects of the technical writing course in their learning expectations, which may or may not have been influenced by lectures on the importance of communicative adeptness in technical and professional fields. I repeated the study in February 2007, when 44 out of a total of 78 students (from three sections of the same technical writing course) participated in the online survey. The questionnaire reads as follows:

1. List 5 things that you believe everyone should learn at college.
2. How effective have courses and faculty at your institution been in helping you learn the items listed above?
3. Please explain your answer to #2.
4. Do your grades reflect what you have learned?
5. Please explain your answer to #4.
6. What is your major?
7. What is your class standing?
8. What is your gender?
9. What is your GPA?

My intent in asking students about the institution's effectiveness and if their grades reflected their learning was to elicit explanatory responses in those areas as students thought about their learning expectations. The four demographic questions seemed adequate to identify the sample characteristics, mostly to show a broad sample of the course and university in terms of major.

A. Population Characteristics.

The demographic breakdown of the respondents – relating to the last four questions of the questionnaire – suggests that participants represent a broad range of majors across campus, though slightly favoring engineering and science majors. Male respondents (32) in the 2005 survey overwhelmingly outnumbered female respondents (9), reflecting the overall gender makeup of the classes. The 2007 survey was also dominated by males (27), but more females (17) participated in the survey, reflecting the higher number of females enrolled in the courses than in previous semesters. All respondents in both surveys were juniors (23/26) or seniors (18/18), and over 70% of the respondents in both surveys were at or above a 3.0 GPA.

Interestingly, the course attracts a range of student majors that has broadened since 2005. In the first survey, 15 of the respondents were engineering majors, but in the 2007 survey, only four engineering majors participated. Several majors that weren't represented in the survey (or in the course) in 2005 but were represented in 2007 include environmental planning, accounting, graphic design, and general studies. The list of represented majors is shown in Table 1. Although the technical writing course is often thought to be aimed at engineering majors, Table 1 shows that the appeal of the course is apparently increasing across other disciplines.

Table 1: List of the majors of respondents.

Major	Number of Respondents Fall 2005	Number of Respondents Spring 2007
Accounting	0	2
Biology	2	1
Business/Finance	3	3
Chemistry	4	6
Communications	1	0
Computer Science	1	5
Construction Management	5	3
Earth Science	1	1
Education	1	1
Engineering	15	4
Environmental/Public Planning	0	2
Exercise Science	6	10
General Studies	0	2
Graphic Design	0	1
Political Science	0	1
Sociology	0	1
Speech Pathology	1	0

IV. Results.

Although the questionnaire was administered to two different student samples, this study does not intend to focus on the differences between the groups. Yet, as suggested above, there are interesting differences between the student groups, and therefore I will continue to show separate results from the two groups so that significant differences can be identified while maintaining a broader focus of what all student participants expect to learn and their perceptions on their learning at the university level.

A. Important "Things" to Learn at College.

The central aspect of this study is what students expect to learn at institutions of higher learning, and their responses show a variety of perceptions about what they feel they need to learn and what they want to gain from the college experience. I asked them to identify five "things," making the total number of learning expectations from both surveys around 440. Several of their responses were the same or extremely similar, and after sifting through the responses, I divided them into three categories: Content, which reflects material that is overtly taught at the university; Career/Academic Skills, which are generally differentiated from content by a "how to" clause or the word "skill" and are useful for either college work or career work; and Life Skills, which are useful for all aspects of life but not necessarily tied to academic work. Obviously, there is some ambiguity in these categories, and several responses required a judgment to be made regarding their categorization, with the understanding that some overlap exists. Table 2 shows the responses of the 2005 groups, and Table 3 shows the 2007 students' responses:

Table 2: Student responses on what students should learn at college (Fall 2005).

Content	Career/Academic Skills	Life Skills
Science	How to give professional presentations	Responsibility
The Constitution	Critical thinking	Basic survival strategies
(my) major content	Communication Skills	Independence
How to reason	Writing Skills	Who they are
Writing	Organization	What they want in life
Research skills	How to summarize an article	Creative thinking
Mathematics	How to analyze	How to have fun
Chemistry	Teamwork	Punctuality
Physics	Computer skills	Time management
Foreign Language	How to defend a position	Social Skills
Construction management	Note-taking	Integrity
The English Language	Study habits	Street smarts
International Politics	How to orally communicate	Cultural diversity skills
Communication	How to write a resume	How to listen
Public speaking	How to write a letter	Personal efficiency
Calculus	How to speak in public	
History	How to talk at a job interview	
Politics	How to find information related to their profession	
Something in the arts	How to use what you have learned and apply it	
Engineering	How to get things done on time	
General knowledge	How to do things up to the standards of the employer	
Business	How to write reports	
Biology	How to confidently do your job	
Computing	People skills	
Human anatomy	Team dynamics	
Reading comprehension	Technical skills and jargon	
	Problem solving	
	How to use technology	
	How to work in a real-world environment	
	How to be professional	
	What kind of career I want	
	Where your expertise is needed	
	When to use different forms of writing	

Table 3: Student responses on what students should learn at college (Spring 2007).

Content	Career/Academic Skills	Life Skills
Higher mathematics	How to read critically	Social responsibility
Practical knowledge	How to use logic correctly	Making friends
Knowledge of your major	Study habits	How to relax and have a good time
Culture	How to perform for a job	Acceptance of diversity
Real-life projects	Skills to succeed individually	Appreciation for life
Reading	People Skills	Personal strengths and weaknesses
Writing	How to take constructive criticism	Time management
Listening	How to meet deadlines	How to do things for yourself
Leadership	How to think for oneself	How to interact with people from different areas
Public speaking	Work ethic	Discipline
Environmental responsibility	How to deal with others in good and bad situations	Self control
Career specialization	How to present yourself	Learn about yourself
Recognizing and analyzing connections in the world	Organization	Honesty
How our present situation depends on all past situations	Responsibility	Self improvement
Correct verbal grammar	Learn the value of work	Sacrifice
Algebra	Interpersonal skills	Politeness
Reading comprehension	How to learn	Community involvement
Written communication	How to work for a boss	Independence
Oral communication	Negotiation skills	Thinking for yourself
Critical thinking	Problem solving	How to respect other beliefs
Basic skills in school	How to work in a group	Learn your passion in life
Math up through Calculus 1	How to make good decisions	How to cooperate
Basic computer skills	Team work	Self-empowerment
Math	How to be professional	See "the whole picture"
History	How to communicate your strengths in a professional environment	Know how to make the world a better place
Professionalism	How to apply myself	Respect
English	How to write a resume	What one believes
Personal Finances	How to handle difficult situations	Making your own choices
Research skills	How to communicate in the field you are pursuing	How to get what you want
Critical analysis of an issue	How to give a presentation	Prioritization
Formulate a strong argument	How to network	Tolerance
Knowledge to help prepare you in a chosen career	How to work efficiently	Self-reliance
	Professional Writing Skills	Creativity
		How to do laundry
		How to cook
		Social skills
		Punctuality
		Self respect
		Reliability
		How to manage stress
		What's important to me

Tables 2 and 3 are lengthy lists, and university faculty and administration should be interested in a close look at what these students are expecting in terms of learning at college. I

only want to discuss a few significant aspects of the Tables, though much more could be said because of how many responses were received. In both groups, the Content items were mostly general subject areas: Science, Math, English, and History combined with some interesting specifics: the Constitution, leadership, environmental responsibility, Human Anatomy, and critical analysis of an issue. One student listed Math, History, Professionalism, English, Personal Finances; begging the questions, "All History?" "What part of English?" "Whose definition of professionalism?" These subject areas are broad, of course, and it would be interesting to conduct follow-up interviews with students as to how they chose general studies courses or their majors to find out what aspects of those areas they were intent on learning.

Overall, most students were more general in their Content responses than with their Skills responses, which tend to be very specific: how to give a presentation, how to manage stress, how to write a letter, and how to meet deadlines. Some of the Life Skills, especially, are interesting because many of them are likely more easily facilitated outside of the college environment as within: basic survival strategies, independence, how to do laundry, how to cook, community involvement, and appreciation for life. The 2007 group seemed to have many more non-repeated Life Skills responses than the 2005 group and fewer specifics in the Career/Academic Skill category, which should make us teachers consider what our students actually expect to learn in the classroom, and how our courses contribute to the their learning expectations beyond our curricular intentions. The broad range of "things" listed in the above tables support the increased emphasis at many institutions on first-year experiences, learning communities, service learning, and other campus and community initiatives that value out-of-classroom activities as contributors to learning.

Examining for differences in gender found stark differences not as much between males and females but in the two groups surveyed. Both males and females in 2005 listed more Content items as a percentage of the total list than their counterparts in 2007. As shown in Table 4, the 9 females in the 2005 survey listed 23 Content "things" out of their approximately 45 total items (57%). In contrast, the 17 females in the 2007 survey listed only 13 Content items out their list of 85 "things" (15%). The males in 2005 named 50 Content items out of 160 "things" (31%), while their 2007 peers listed only 19 Content items out of 135 total (14%).

Table 4: Percentage of Content "things" listed as compared to the total list.

2005		2007	
Females (9)	Males (32)	Females (17)	Males (27)
23/~40 (57%)	50/~160 (31%)	13/~85 (15%)	19/~135 (14%)

As one reads over the 2007 list, there are a large number of "skills" and "how to" phrases, whereas several females and males in the 2005 study listed general content areas such as Math, English, Computing, and Business. Especially for the female group in 2005, Content areas were listed significantly more in their own list and compared to their male peers. The marked difference in the number of Content items between the two groups may mean students are increasingly placing more importance on instruction in skills for career and life rather than on typical general studies content.

B. Course and Faculty Contributions to Learning.

The participating students' assessment of their university's faculty and courses' effectiveness in helping their learning, especially in the areas that they identified, were quite positive (Table 5), although in their explanations of their scaled responses, students took more credit for their learning than they gave to faculty. Their responses illustrate the nature of their perceptions of the student-teacher relationship and influence of faculty on their learning, which, though limited to one university, can serve as anecdotal support for findings, including those above, which indicate student effort and "exploitation" as integral factors for learning.

Table 5: How effective are your institution's faculty and courses at helping you learn the listed items?

Scale	Number of Responses Fall 2005	Number of Responses Spring 2007
Very Effective	21	19
Somewhat Effective	17	23
Not Effective	0	1
Don't know	2	1

Several students' explanation of their answers support the scholarly view that most students feel that the process of learning is often independent of what happens in the classroom:

They have given me the resources I need to succeed. A lot of it is up to the student, how much he/she wants to get out of it.

I haven't learned much of anything factual while being here. I've learned, however, the importance of certain subject areas and awarenesses. More importantly, I've learned where to look to learn on my own. Being proactive is the most important part.

I believe most things are individual not as much the responsibility of the university.

[The university] helped some but most was self-taught.

These are not taught in most classes directly. Rather they are learned by the student independently.

Of course, English classes help facilitate critical reading and writing skills. However I feel that [this university] didn't specifically provide classes geared towards each individual issue I listed above, nor should it. Most of these things should be learned through experiencing college life on your own rather than in a classroom.

Other responses illustrate some confusion about the purpose of a university and the curriculum:

Universities seem to make people have the wrong mind set about what education should be about. It shouldn't be so much about getting your degree so you can go make the most money possible, education should teach students to find in themselves what is really important and worth pursuing in life.

It is hard to define what we need to know. Some teachers are more confusing than others. I think most of them get out everything we need, some of it is just a little garbled.

I feel some classes [this university] requires me to take are pointless towards my major.

Lastly, some responses were completely positive as to their overall university experience in terms of learning:

I have learned much about people, myself, academics, life, and social "rules". The atmosphere, staff, and class choices have really helped me to learn all of these things to the fullest potential I can at this point in my life.

My coursework has prepared me for the "real world" and I know what co-workers will expect of me.

The variety of comments – sampled above – show the range of what students feel is important at the college level, and it is interesting how they ascribe learning "their five things" to activities or experiences outside the classroom – even so far as dismissing what is taught in the classroom as "pointless" and saying that the essential things are "not taught directly" in the classroom. Therefore, to some students, the relationship between grades and learning is suspect in relation to the value of individual courses to their most important learning expectations.

C. Grades and Learning.

In the education systems in the United States, the most overt indicator of student performance, and perhaps learning, is a course grade. Despite occasional resistance to grading criteria or perceived inflation of grades, the grade system has maintained its general superiority to other methods of evaluation of student performance and learning. The reasons for this are too many to be included in this study, but the acknowledgement of their traditional use and eminence are important in a discussion on measuring student learning. The responses to the question, "Do your grades reflect your learning?" were spread out across the scale, though students were slightly more positive in their scaled answers (Table 6):

Table 6: Do grades reflect learning?

Scale	Number of responses Fall 2005	Number of responses Spring 2007
Yes	6	12
Mostly	19	19
Partly	14	11
No	2	2

In the respondents' explanations of their scaled answers, they recognize the difference between grades representing learning and grades representing performance. Several of the respondents claim that grades reflect test-taking ability more than what one actually learns in a course:

Grades in no way reflect what you have learned, certain people may know the material very well and still not do well in a course because they are poor test takers.

Grades measure your test-taking ability and not much about what you have learned.

I have had some classes that I have felt that I have learned the required information that was presented, but I am not always tested fairly on the material being presented in a fair manner.

Others placed non-graded college experiences and learning above graded activities in terms of importance, and view the skills or knowledge that are "not directly taught" at college as being superior to the things taught in classes as part of the overall curriculum:

My grades reflect the academic aspect of college, but I have also learned more important things about life, study habits, myself, time management, etc. that I was not directly taught in college.

Most of the things that should be learned can't be implemented into a set curriculum. It's better attained though living by trial and error.

What I have mostly learned at [this university] has been outside of the classroom.

In addition, many of the respondents view grades as separate from learning, noting that the amount they learned in a class wasn't always positively correlated with the grade they received; in fact, many of them found the negative correlation between a grade and amount learned to be quite common:

I think that there are classes that I have learned a lot and have done well when looking at the grades. On the other hand, I have had classes where I didn't learn a thing and got an A.

I have pretty good grades, but some subjects I could care less about and don't really pay attention but I can still pull good grades in these classes without learning the material.

I get good grades but I don't feel they accurately show what I learned. I can study very hard to pass a test and get a good grade and then forget it all the next day.

Some classes I've gotten good grades in I didn't feel like a really knew the material...and vice versa.

Some of the classes that I learned the most in I got a C. Some of the classes I learned the least in, I got an A.

Other respondents saw correlation between effort and grades, but felt that learning was again a separate function of going to class:

The effort I apply is directly proportional to the grades I get. I know if I need more work in an area, and so I do that work. If I don't do the work to be proactive about learning on my own, I will not receive good grades, and vice versa.

My grades are good due to all of the effort I put forth and studying I do.

Only a few respondents were entirely positive on the relationship between effort, grades, and learning:

I would say my grades reflect what I have learned. I work very hard in all of my classes, and try to do everything I can to understand the information presented, so yes, my grades do reflect what I have learned.

I work EXTREMELY hard for my grades a feel confident that they not only reflect that but also my knowledge on the subject.

I have received excellent grades, which cannot be achieved without learning everything necessary.

Finally, a stunning response that makes one question the ability – not the practicality – of that graduate school or job applicant with a 4.0 GPA:

I learn to get good grades, not to learn. Too much emphasis is put on your GPA that I cannot afford to really learn.

As Cross succinctly stated, what we learn in courses isn't always what the teacher intends to teach; additionally, the grades we give students have as much to do with effort, participation, and performance as they do interpretation and learning. Our hope as teachers is that the combination of those elements will facilitate learning outcomes that are more meaningful than a grade, but as the last comment illustrates, it's difficult to be sure.

V. Conclusion.

This study is small in comparison to several of the studies cited above, yet I believe that the results indicate that student perceptions can be valuable in discovering the breadth of what students learn at college. The students' responses show that by limiting assessment to administratively determined learning outcomes, we may shortchange valid perspectives for learning about *learning*. In addition to task-based assessments, students should have the opportunity to identify, evaluate, and reflect on learning expectations and outcomes throughout their college career. Beyond the straightforward value of the student perceptions in our understanding, it is also important to allow the students to elucidate expected learning outcomes because their expectations contribute to their reality, which can directly affect classroom instruction and learning. Pintrich (1988) surmises that in order for learning to take place in a college classroom, the way students "organize" knowledge must be closely aligned to the way the instructor organizes the course content (p. 74). If we, as faculty, rely wholly on our own expectations and organization of knowledge and learning, we may be marginalizing an indeterminable number of students whose ways of interpreting information don't match ours. As this study shows, student realities can be quite different from their teachers' realities, for few university teachers would include "how to cook" as one of five of the most important things everyone should learn at college. Even if we can't justify integrating cooking into our curricula, we must still be open to new perspectives regarding what is being learned in order to find ways to address our content as well as other expectations mentioned by participants: integrity, tolerance, and self-respect.

It is notable that the majority of Content areas mentioned by the students represent the large fields of study, not specific classes that often attract students to areas within those larger fields. The students' answers, especially in the 2005 survey, seem to indicate that the core studies in math, science, English, and history are the most important, no matter what their chosen major. The generality of the Content area responses overlook scores of courses within those areas, while responses in the Skills areas are so specific as to reflect perhaps one lecture, classroom activity, or singular experience on that topic. The specificity and prevalence of Career/Academic/Life Skills from the 2007 survey especially, in addition to both groups of students' comments on grades and institutional support indicate that for students preparing to graduate, *doing* is as important than *knowing*. Thus, courses that focus only on content are perceived as less necessary (see Astin, 1993, p. 223) than courses that emphasize *how* to achieve learning outcomes identified by both faculty (see CLAP's outcomes) and students (see Tables 2 and 3).

Because of the significant number of disciplines represented by the relatively small number of participants, the results of this study are useful in pointing attention to cross-disciplinary courses and programs on campus that address disciplinary content and skills through balancing theory and practice so that students may learn to apply multiple contextual factors to discovered knowledge (see Walker, 2007), such as exploring how "social responsibility" and "environmental responsibility" – life skills with content – influence and are influenced by political science. Such courses overcome specialization's separating of knowledge, provide a venue where students are active participants in the content of the course, and where the assessment vehicles, such as exams and essays, are designed to encourage students to situate their writing and thinking within contexts that matter to them – whether it their own technical field, a strong interest, or the job market. In this way, as proposed by Ross (1981), "students . . . have maximal power to direct their learning commensurate with the nature and quality of what they learn (p. 132).

In terms of ranking "quality," this study shows that these student participants are astutely aware of the broadness of a college education, and illustrate that selectivity and other admission factors quickly become secondary to their responsibility to account for their own learning in areas of content and skills. Furthermore, the poignancy of the student responses indicate that schools that have quality courses addressing specific learning expectations of students may be undervalued in terms of institutional rank. To better articulate the three parts of Cross's "curricula," we need to be more responsive to student perceptions and the dialectics those perceptions create in college classrooms: their academic knowledge, their interpretation of knowledge, their grades, their social life, and the pressure to choose a career and find a good job, and to utilize those contexts for facilitating cognitive growth in our classrooms. Many things are going on in the lives of our students, and if we measure the "quality" of institutions by criteria that does not take into account student perceptions of their own learning, then prospective students and their parents, prospective faculty, and administrators – all of those interested in rankings and reputation– are receiving a limited view of the learning that takes place on any given college campus.

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