

Enriching the First-Year Experience for College Students

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1. Two Types of Environmental Measures

Today I would like to discuss what research on college students tells us about how to enrich the experience of first-year college students. While most of this research has been conducted in the United States, I believe that many of the findings can be generalized to college and university students in other countries.

The basic purpose of the studies that I will review has been to determine how student outcomes are affected by various types of academic and non-academic experiences during the first year of college. Many different student outcomes measures have been studied, including a variety of cognitive and affective measures that were judged by the investigators to be relevant to the goals of undergraduate education. Although this is not the place to discuss the methodology of these very complex studies in much detail, the basic approach has been to control for student "input" characteristics at the time of entry to college before attempting to assess the effects of the first-year environment on the outcome measures.

Researchers in this field like to distinguish between two types of environmental measures: *institutional* level and *student* level. Institutional-level measures refer to attributes of the total institutions such as its size, financial resources, characteristics of the faculty, and characteristics of the student peer group. I will begin by summarizing what we have learned about how the first-year experience is affected by characteristics of the overall institution.

2. Effects of the Environment at the Institutional Level

(1) Sources of Influence: Peer Group and the Faculty

Perhaps the most important generalization is that the strongest single source of influence on the first-year student's cognitive and affective development appears to be the *peer group*. In particular, the characteristics of the peer group, and the extent of the student's interaction with that peer group, have enormous potential for influencing virtually all aspects of the student's educational and personal development. Generally speaking, the greater the interaction with peers, the more favorable the outcome. The next most important source of overall institutional influence on the student's development is *the faculty*. One study involving several hundred colleges and universities developed a number of measures of the faculty "climate" at each college or university by means of a comprehensive survey of the faculties at these institutions. Two

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characteristics of college and university faculties were found to produce contrasting patterns of effects on student development. The first measure is called "Research Orientation". The faculty's Research Orientation is defined both in behavioral as well as attitudinal terms. More specifically, the Research Orientation of the faculty reflects their publication rate, how much time they spend conducting research, and their stated personal commitment to research. A faculty with a strong Research Orientation would thus publish many articles and books, spend a substantial amount of its working time on research, and attach a high personal priority to engaging in research. As you might guess, the faculties in different types of institutions differ dramatically in terms of the strength of their Research Orientation.

The other faculty environmental measure is called "Student Orientation of the Faculty". Student Orientation is also based on responses to the faculty survey. It comprises a set of seven items that mainly reflect the extent to which faculty believe that their colleagues are interested in and focused on student development. Typical questionnaire items which go to make up this factor are "faculty here are interested in students' academic problems," "faculty here are interested in students' personal problems," "faculty are easy to see outside of office hours," and "there are many opportunities for student-faculty interaction."

(2) Research Orientation of the Faculty

What kinds of effects do these two different faculty measures have on student development? Let's start with Research Orientation. (Slide 1) The only positive effect of Research Orientation is on the student's standardized test scores. On the other hand, strongest and most numerous effects of the faculty's Research Orientation are all negative. The strongest negative effect is on student satisfaction with faculty. Resource Orientation also has negative effects on the student's leadership, public speaking skills, and interpersonal skills. Still other negative effects are on college grades, participation in cultural activities, and satisfaction both with the quality of instruction and with the overall college experience. In short, with the exception of these last effects, there is a significant institutional price to be paid, in terms of the first-year experience, when the faculty puts a great emphasis on research.

(3) Student Orientation of the Faculty

Student Orientation of the faculty produces a very different pattern of effects. (Slide 2) Its strongest positive effects are on satisfaction with faculty and with the overall college experience. The Student Orientation of the faculty also has a number of positive effects on academic outcomes: receiving academic honors and growth in writing skills, critical thinking abilities, and analytical and problem solving skills and overall academic development. Student Orientation also has weaker positive effects on leadership development during the first year. In short, this pattern of effects suggests that having a strongly student-oriented faculty pays rich dividends in terms of the affective and cognitive development of the first-year student.

In the United States the institutions that personify the combination of the strong Research Orientation and a weak emphasis on student development are, of course, the major public universities. Institutions that personify the reverse pattern include primarily small private

colleges with limited resources. There are, I might add, a small group of institutions that combine a strong faculty orientation toward research with a strong student orientation. These include several affluent and selective private colleges and a few of the smaller private research universities.

3. Effects of Student-Level Environmental Experiences

(1) Three Types of Environmental Factors

Let's turn now to consider what has been learned about the effect of student-level environmental experiences on first-year student outcomes. Because of the large number of environmental experiences that investigators have looked at, my summary will necessarily be brief and perhaps oversimplified. The next shows the three types of environmental factors that were found to be most critical in enhancing general education outcomes: "interaction among students", "interaction between faculty and students", and "student academic involvement during the first year". (Slide 3)

(2) First Factor: Interaction among Students

The next shows the six student outcomes that were most strongly affected by the amount of interaction that occurs among students: "leadership", "public speaking ability", "overall academic development", "critical thinking skills", "cultural awareness", and "general knowledge". (Slide 4)

(3) Second Factor: Interaction between Faculty and Students

The next shows the specific outcomes that are most influenced by student-faculty interaction. (Slide 5) As would be expected, student-faculty interaction has its strongest positive effect on the individual student's degree of satisfaction with faculty. Student-faculty interaction is also positively related to overall satisfaction with college and, as might be expected, satisfaction with the quality of instruction. This environmental variable is also associated with several measures of academic development as well as with the student's enrollment in postgraduate study. Here is a case where there appears to be a direct "role modeling" effect: the more students interact personally with faculty, the more likely they will be to pursue postgraduate study and to be interested in an academic career. It is also of interest that student-faculty interaction had a *negative* effect on the first-year student's materialistic values.

(4) Third Factor: Student Academic Involvement

The third individual level factor that positively affects first-year outcomes—academic involvement—is defined in terms of how much time and energy the student devotes to academic work. Academic involvement has more positive effects on first-year outcomes than any other environmental variables. (Slide 6) It positively affects all academic outcomes, as well as scores on standardized tests, preparation for graduate school, and satisfaction with the first-year experience. It is also interesting to note that academic involvement has *negative* effects on alcohol consumption, cigarette smoking, and materialistic values.

4. Influence of Three Pedagogical Practices

I'd now like to comment briefly on three specific pedagogical practices that seem to enhance the first-year experience for most students: "written evaluations", "interdisciplinary courses", and "essay examinations". (Slide 7)

(1) Written Evaluations

A particularly interesting set of effects was associated with the use of written evaluations, by which I mean brief essays written by a faculty member evaluating the first-year student's progress. These evaluations are sometimes used as an alternative to traditional classroom grading. Such evaluations tend to be "labor intensive," in the sense that they consume a good deal of the professor's time. Although only a few institutions in American higher education offer written evaluations of student performance as an alternative to traditional grading, research reveals several some interesting effects of the use of written evaluations on the first-year student's performance. Perhaps most intriguing of all is that the use of written evaluations has a positive impact on the student's interest in pursuing a career in college teaching. Why would this be so? In all likelihood, a professor cannot really write a competent evaluation of a student without getting to know the student quite well. Could it be that professors who get to know their students well enough to perform written evaluations of their performance are viewed by these same students as positive role models? This pattern of results suggests strongly that written evaluations, despite their "labor intensity," offer a promising possibility for enhancing the quality of student-faculty relationships and for developing in students a greater sense of identification with their faculty mentors.

(2) Interdisciplinary Courses

One of the most widespread patterns of positive effects is associated with enrollment in *interdisciplinary courses*. Interdisciplinary courses usually involve professors from two or more academic fields who teach a particular course as a team. Specifically, taking interdisciplinary courses has positive effects on the student's performance of standardized tests, on their satisfaction with the first year, and on most academic growth measures.

(3) Essay Exams

As would be expected, *essay exams* have a very different effect on first-year outcomes in comparison to multiple choice exams. Frequently taking essay exams helps to strengthen student's writing skills. Taking essay exams is also positively related to practically all other growth measures and to satisfaction. By contrast, frequently *taking multiple choice exams* has negative effects on growth in writing skills as well as on critical thinking skills. On the other hand, taking a lot of multiple choice exams has positive effects on the student's materialistic values.

So far I've been looking at the first-year experience in terms on *environmental* factors that affect various first-year outcomes. I'd now like to examine some of this evidence from the perspective of selected *outcomes*. Since there are too many outcomes to cover in a presentation like this, I'd like to select three outcomes that would be of particular interest to the faculty of most

universities: “critical thinking skill”, “analytical and problem-solving skills”, and “cultural awareness”.

5. Influence on Three First-Year Outcomes

At this point I'd like to take a moment to summarize the findings of this research as it applies to three first-year outcomes that will tend to be mentioned in almost any faculty discussion of the intended outcomes of the student's first year in college. I am thinking here of “critical thinking ability”, “analytical and problem solving skills”, and “cultural awareness”. (Slide 8)

(1) Ability to Think Critically

When we look at all the evidence concerning environmental factors that seem to facilitate the development of critical thinking skills during the first year, we find that the most potent experiences include the frequent use of essay exams and multiple drafts of written work as evaluation techniques, and having a faculty that is strongly student-oriented. Other positive factors include taking a lot of science courses, history courses, and courses that emphasize the development of writing skills, giving class presentations, being a guest in a professor's home, frequently discussing social issues with other students, and enrolling in interdisciplinary courses. (Slide 9)

(2) Analytical and Problem Solving Skills

Among the factors showing the strongest positive effects on analytical and problem solving skills are taking a lot of math or science courses, having a strongly student-oriented faculty, having class papers critiqued by instructors, working on group projects for a class, and frequent student-faculty interaction. (Slide 10)

(3) Cultural Awareness

The development of cultural awareness during the first-year of college is enhanced when the student leaves home to attend college, a finding which supports the notion that the residential experience enables students to become familiar with a greater variety of cultural and economic groups. A similar argument can be made to explain the positive effect on cultural awareness of having a part-time job on campus. That is, having an on-campus job would tend to bring the student into contact with a wider variety of fellow students and staff. Other environmental experiences that impact positively on the development of cultural awareness include having frequent discussions with other students about racial/ethnic issues, interacting with people from diverse cultural groups, enrolling in ethnic studies courses, and attending racial or cultural awareness workshops. Factors which detract from the development of cultural awareness include working full-time while enrolled as a student and watching television. (Slide 11)

6. Implications 1

I would like to suggest that there are at least two ways in which we can view all of this evidence. On the one hand, these studies provide a number of specific suggestions for directly improving first-year programs. On the other hand, the evidence provides important clues about how we

might go about setting up an assessment program for the first college year. For example, when it comes to assessment, the evidence suggests that our assessment efforts should strive to incorporate as much information as possible about the *learning environment*, especially the quality and quantity of interaction among students, interaction between faculty and students, as well as the faculty's attitudes toward teaching and toward students. In other words, it is not enough simply to develop measures of first-year education *outcomes* if we have no real basis for understanding what it is about individual students' educational *experiences* during their first year that have affected their performance on these outcomes.

(1) Possibilities of Peer Group Effects

Especially intriguing to me are the possibilities suggested by the findings concerning peer group effects. If the peer group can be one of the most powerful sources of influence on the student, why not take advantage of this fact in designing not only our curricular delivery systems but also our out-of-class experiences for first-year students?

Take instructional method as an example. The traditional lower division class involves a good deal of lecturing, possibly some class discussion, some individual out-of-class work, course exams, and letter grades. Under such a system, individual students work pretty much on their own and peers are basically viewed as competitors. However, under what we have come to call cooperative learning methods, where students work together in small groups, students basically teach each other, and our pedagogical resources are multiplied. Classroom research has consistently shown that cooperative learning approaches produce outcomes that are superior to those obtained through traditional competitive approaches, and it may well be that our findings concerning the power of the peer group offer a possible explanation: cooperative learning may be more potent than traditional competitive methods of pedagogy because it motivates students to become more active and more involved participants in the learning process. This greater involvement could come in at least two different ways. First, students may be motivated to expend more effort if they know that their work is going to be scrutinized by peers, and second, students may learn course material in greater depth if they are involved in helping teach it to fellow students.

It's easy to understand why we academics put so much emphasis on curricular content. Most of us discovered very early in school that we were skilled at mastering the curricular content that we were exposed to by our teachers and in our textbooks, and we were well rewarded for demonstrating this skill in class and on exams and standardized tests. What professional success we might be able to achieve in our disciplines is often dependent on our ability to master highly specialized content in our field or subfield. So when we get appointed to the curriculum committee, our natural instinct is to focus on content rather than on pedagogy.

(2) Factors with Negative Effects

Let us now examine those factors which tended to have the strongest *negative* effects on first-year outcomes. (Slide 12) The one of environmental factors that had by far the largest number of significant negative effects on first-year outcomes were living at home and commuting to the

campus to take classes. Living at home and commuting have negative effects on cultural awareness, leadership skills, and attendance at cultural events. They also have negative effects on overall satisfaction with the undergraduate experience and satisfaction with the first-year education program.

The next most important negative factor in the first-year experience is the hours per week that students spend watching television. Critics of our television viewing habits and of television programming have long argued that this powerful medium exerts a negative influence on students' educational development, and here is some empirical evidence to support these arguments.

Of particular interest is the finding that frequent television viewing appears to reinforce students' materialistic values. Considering the overwhelming presence of materialistic values and content not only in commercial television advertising but also in the programming, this kind of an effect is perhaps to be expected. It is also of interest that some of our most recent research shows that excessive television viewing has a negative effect on the student's spiritual development. Finally, television watching also shows a negative effect on test of verbal ability. Again we find confirmation for the argument that excessive television viewing impedes the development of verbal skills.

The next negative factor we refer to as a "lack of community among students." Like Student Orientation and Faculty Orientation, this environmental measure is derived from the faculty's responses to a questionnaire, and it reflects the extent to which faculty members believe that the undergraduate peer group is lacking in a sense of community. A lack of community has a negative effect on first-year students' overall satisfaction with the undergraduate experience and a positive effect on students' materialistic values.

7. Implications 2

A finding of considerable potential significance concerns the factors that were found to influence performance on standardized tests. The environmental experiences that facilitate standardized test-performance are almost entirely different from those that affect most other cognitive and affective outcomes, including first-year grades, interest in graduate or professional school, academic growth, values and attitudes, and satisfaction with college. Given the heavy reliance on standardized tests at all levels of education in the United States and in many other countries, it is important to realize that educational reform efforts designed primarily to improve the student's ability to perform well on standardized tests may not contribute to any of the other outcomes and may, in some cases, detract from them.

The point here is not necessarily to denigrate the use of standardized multiple-choice tests in assessing educational outcomes, but rather to point out that they measure rather narrowly defined skills and do *not* appear to be good indicators of student development in many other important areas that most of us consider relevant to the broad goals of undergraduate education.

8. The Importance of Values

In closing, let me once again offer a simple plea for the importance of *values*. I think the time has come for academia to begin concerning itself much more directly with the question of values. One of the advantages of establishing a first-year assessment program that includes a variety of student outcome measures is that it forces the university to clarify its values: What are the values underlying our formal curriculum and our preferred pedagogical methods? What are the personal qualities that we value in our students and that we want to enhance through our first-year educational program? What kinds of citizens, and parents, and community members do we want to produce? How important is it to produce more people with strong materialistic values, as opposed to cultural awareness? How important is it to emphasize qualities like honesty, integrity, generosity, and social responsibility? While there is no way to know for sure where such value discussions will lead, I cannot help but believe that our first-year programs for students will be substantially strengthened if we can succeed in persuading our university faculties simply to *begin* a serious discussion of such value questions.

Thank you.

Effects of Research Orientation on student outcomes

Positive Effect: Standardized test scores

Negative Effects:

- Satisfaction with faculty
- Public speaking & interpersonal skills
- Cultural participation
- Grades
- Leadership
- Overall Satisfaction

Slide 1

Effects of Student Orientation on Student Outcomes

▪ **Positive Effects:**

- Satisfaction with faculty
- Overall satisfaction
- Academic honors
- Growth in writing skills, critical thinking,
problem solving skills
- Overall academic development
- Leadership

Slide 2

Individual-level Experiences that Affect First-
Year Outcomes:

- Student-Student Interaction
- Student-Faculty Interaction
- Student Involvement

Slide 3

Student-Student Interaction has Positive
Effects on:

- Leadership
- Public Speaking Ability
- Overall academic development
- Critical thinking ability
- Cultural Awareness
- General knowledge

Slide 4

Student-Faculty Interaction Has Positive
Effects on:

- Satisfaction with Faculty
- Satisfaction with Instruction
- Interest in an Academic Career
- Interest in Postgraduate Study

Slide 5

Effects of Academic Involvement

▪ **Positive:**

- All academic outcomes
- Standardized test scores
- Preparation for Graduate School
- Overall satisfaction

▪ **Negative:**

- Alcohol and cigarette consumption
- Materialistic values

Slide 6

Positive Pedagogical Practices

- Written Evaluations
- Interdisciplinary Courses
- Essay Examinations

Slide 7

Important Outcomes

- Critical Thinking Skills
- Analytical and problem-solving skills
- Cultural Awareness

Slide 8

What Affects Critical Thinking Skills?

- Essay Examinations
- Student-oriented Faculty
- Science/mathematics/history courses
- Writing Courses
- Class presentations
- Being a guest in a professor's home
- Student-student discussions
- Interdisciplinary courses

Slide 9

What Affects Analytical and Problem-Solving Skills?

- Science/mathematics courses
- Student-oriented faculty
- Written critiques of papers by Professor
- Group projects
- Student-Faculty Interaction

Slide 10

What Affects Cultural Awareness?

(positive)

- Living on campus (not at home)
- Part-time job on campus
- Discussing racial/ethnic issues with students
- Cross-racial interaction
- Taking Ethnic Studies Courses

(negative): TV, full time employment

Slide 11

Negative Environmental Factors:

- Living at home/commuting
- Watching television
- Lack of Community

Slide 12