that can be easily implemented) is critical so students can see almost immediate results. Success begets success; anxiety builds on anxiety.

Misperceptions of what a college education demands and can provide frequently intensify problems with foreign language learning. The transition to becoming a self-motivated, mature learner who looks to the professor for guidance and evaluation is generally assumed to be well underway by most college instructors. One of the most important but difficult roles of the advisor is to help students gain a realistic view of the dynamics of a college education.

CONCLUSION

Although advisors may appreciate the value of foreign language study, it is not always easy to communicate these benefits to anxious students. Unfortunately, an element of faith is required since the full value is generally realized only after the fact. Therefore, the primary goal of the academic advisor should be to encourage attitudes and activities which are the keys to success. Study it, say it, write it, and do it — don't just read it.

Relationships Between Student Characteristics and Perceived Outcomes of a University Education

PAUL B. MARION, *Associate Vice President for Student Services and Special Programs,* and

NEAL K. CHEEK, *Director of Student Services, School of Nursing, The University of North Carolina at Chapel Hill*

There are a number of possible outcomes of a college education and students differ as to the extent to which various outcomes are achieved. In his review of the goals of higher education since the first days of The University of Paris and the Sorbonne, Brown found that "throughout history, almost without exception, the expressed or clearly implicit goals of colleges and universities have been to have an impact on students in ways more extensive than passing on facts, specific skills, or intellectual capacities." Miller and Prince suggest that "an institution must act on the knowledge that each student arrives on campus with many developmental needs which must be met in a variety of ways, both formal and informal, and that no two students have the same requirements."[1]

Any consequence of a student's enrollment in a given educational institution may be considered an outcome. Within this broad definition, a number of distinctions among types of outcomes can usefully be made. For example, Astin, Pano, and Creager[2] categorize student outcomes as follow:

- psychological/cognitive outcomes, such as knowledge, critical thinking ability, basic skills, special aptitudes, and academic achievement;
- psychological/affective outcomes, such as self-concept, values, attitudes, beliefs, drive for achievement, and satisfaction with college;
- behavioral/cognitive outcomes, such as career development, level of educational attainment, and vocational achievements; and

[1] J.S. Prince, T.K. Miller, & R.B. Winston, *Student developmental task inventory guidelines,* Athens, GA: Student Development Associates, (1974), p. 4.
R.D. Brown. *Student development in tomorrow's higher education.* Washington: American College Personnel Association. (1972). P. 28.

[2] A.W. Astin, R.J. Panos, & J.A. Creager, *National norms for entering college freshmen fall 1966,* Washington: American Council on Education, (1967).

— behavioral/affective, such as personal habits, avocations, mental health, citizenship, and interpersonal relations.

The framework proposed by Jones recognizes changes in students, such as learning gains, development of skills, and attitude changes; also, changes that occur in the relationship between students and the institution, such as withdrawal from the institution by students because of some negative experience.[1]

Many of the possible outcomes of a college education are related to personal, career, intellectual, and moral development of people in the post-adolescent age group. For example, Erikson cites the objectives of this age group as learning a masculine or feminine social role, accepting one's body, achieving emotional independence from parents and other adults, selecting and preparing for an occupation, and developing values and a system of ethics. According to Blocher, people in this age group must gain identity as a worker, learn to move from group to individual relationships, achieve emotional autonomy, produce in work situations, and develop intimacy and commitment.[4]

The developmental vectors postulated by Chickering are achieving competence, managing emotions, becoming autonomous, establishing identity, forming interpersonal relationships, clarifying purpose, and developing integrity.[5] Coons states that most college students move from a child-parent to an adult-adult relationship with their parents, resolve their sexual identity, create a personal value system, develop the capacity for human intimacy, and choose a life's work.[6] According to Prince, Miller, and Winston, the developmental tasks of young adults include developing autonomy, developing mature interpersonal relations, and developing purpose.[7]

Although many studies of human development have included changes that occur during the college years, and various schemes have been developed to categorize student outcomes, very few of these studies have been conducted to assess the perceived accomplishment of goals by recent college graduates. Neither do the studies investigate differences in the extent of the perceived accomplishment of outcomes for different types of people. The study cribed in this paper was carried out with a random sample of recent graduates of The University of North Carolina one year after graduation to determine the relationships between certain characteristics of those gradutes and their perception of the extent of accomplishment of eight possible outcomes of their undergraduate experience. The results may be useful to college and university faculty members, academic advisors, and other administrators in helping students clarify and accomplish educational and personal development goals. The results may also be of interest to theorists and researchers in the area of student outcomes.

[1] D.P. Jones, *Data and information for executive decisions in higher education*, Boulder, CO: National Center for Higher Education Management Systems, (1982).

[4] D.H. Blocher, *Developmental counseling*, New York: Ronald, (1966).
E.H. Erickson, *Childhood and society*, New York: Norton, (1963).

[5] A.W. Chickering, *Education and identity*, San Francisco: Jossey-Bass, (1969).

[6] F.W. Coons, The developmental tasks of college students. In S.C. Feinstein, P.L. Giovacchini, & A.A. Miller (eds.), *Adolescent psychiatry: Developmental and clinical studies*, New York: Basic Books, (1971).

[7] J.S. Prince, I.V. Miller, & R.H. Winston, *Student developmental task inventory guidelines*, Athens, GA: Student Development Associates, (1974), p. 4.

METHOD

A random sample of 410 graduates who received baccalaureate degrees in May of 1979 were sent copies of a questionnaire in the spring of 1980 with instructions to indicate the extent to which each of the following outcomes had been accomplished during the undergraduate years:

1) to prepare for further graduate or professional education; to develop or upgrade employment skills;
2) to enhance reasoning ability, recognize assumptions, make logical inferences and reach correct conclusions;
3) to communicate effectively through clear and correct speaking and writing;
4) to develop an appreciation and enjoyment of art, music, drama and literature;
5) to become aware of different philosophies, cultures and ways of life;
6) to better understand one's abilities, interests and personality; and
7) to gain skills and experience in relating to other people.

The questionnaire also requested information about each graduate's sex, academic major, grade point average, father's educational level, satisfaction with the quality of education in the major field of study compared with graduates of other institutions, whether or not the same academic major would be chosen again, the highest academic degree they planned to pursue, whether they were employed one year after graduation or continuing their formal education and, for those who were employed, their occupational field and the degree to which their job was related to their academic major.

These outcomes and characteristics were selected for investigation because they provided information of immediate use to institutional decision-makers, they could be measured, and they covered all four of the categories of Astin's classification system. Psychological/cognitive factors, for example, included the extent to which the graduates felt that their education had enhanced their reasoning ability and helped them learn to recognize assumptions, make logical inferences and reach correct conclusions; had helped them to communicate effectively through clear and correct speaking and writing; had resulted in development of an appreciation and enjoyment of art, music, drama and literature; and their grade point average. Psychological/affective factors related to students' satisfaction with the quality of education in the major field of study, satisfaction with the choice of major, and the extent to which their college experience had helped them become aware of different philosophies, cultures and ways of life and to better understand their own abilities, interests and personality. Behavioral/cognitive factors included in the study questioned whether graduates were employed or continuing their education one year after graduation and, for those employed, what occupational field. Finally, behavioral/affective factors asked to what extent students had gained skills and experience in relating to other people.

For purposes of analysis, academic majors were grouped as follow: natural science, social science, mathematics or computer science, business, humanities or fine arts, health fields such as nursing or pharmacy, and professional fields such as education or journalism. Grade point averages were grouped as 2.00-2.49, 2.50-2.99, 3.00-3.49, and 3.50-4.00. The other factors included were: father's educational level as high school or less; some college or college degree; or graduate degree; quality of education compared to graduates of other institutions in the same field of study as much better, better, or the same or worse; and highest degree

planned as bachelor's, master's, professional, or doctorate. In the section for employed graduates, the occupational field was categorized as either wholesale or retail trade; banking, finance, insurance or real estate; health; education; manufacturing; or other. The response choices for relationship of job to major were *directly, somewhat,* or *not at all.*

The chi-square procedure was used to determine whether differences in the perceived extent of accomplishment of the outcomes for different types of students were statistically significant at either the .05, .01, or .001 level.

RESULTS AND DISCUSSION

Response

Completed questionnaires were received from 301 grduates, for a response rate of 73%. Of the 301 respondents, 188 were employed on a full-time basis, 73 were continuing their formal education, and 40 were involved in other activities such as travel, military service, part-time employment, and homemaking. Only the 261 graduates who were employed on a full-time basis or continuing their formal education were included in the analysis because there were too few graduates in the other categories to allow for accurate conclusions based on the statistical analysis. Also, occupational field and relationship of job to academic major were analyzed only for the 188 graduates who were employed full-time since these two characteristics were not relevant for those graduates who were continuing their formal education.

The 261 graduates were a diverse group in characteristics such as sex, academic major, grade point average, father's educational level, whether they were employed or continuing their formal education, and the occupational field of those employed. Hopefully, the results may be relevant in making generalizations about graduates of other colleges and universities in the United States.

Perceived Extent of Accomplishment

Statistically significant differences in the extent to which the outcomes were considered by the graduates to have been accomplished are indicated in Table 1 for each of the student characteristics. For example, there were no significant differences between male and female respondents in the perceived accomplishment of the eight outcomes. This may imply that changes in women's attitudes in recent years have eliminated differences between men and women which existed in the past as to women's motivation for attending college and goals while in college.

TABLE 1

Chi-Square Analysis of Differences in Perceived Accomplishment of Outcomes for Different Characteristics of Graduates

Outcomes	Characteristics of Graduates											
	Sex	Academic Major	Grade Point Average	Father's Education	Satisfaction With Education in Major	Satisfaction With Choice of Major	Highest Degree Planned	Employed or Continuing Education	[1]Occupational Field	[1]Relationship of Job to Major
To Prepare for Further Graduate or Professional Education			•	•••		•••	•	•	•	
To Develop or Upgrade Employment Skills					•	••		•••	•••	•
To Enhance Reasoning Ability, Recognize Assumptions, Make Logical Inferences and Reach Correct Conclusions					•				•••	
To Communicate Effectively Through Clear and Correct Speaking and Writing		•••			••				••	•••
To Develop an Appreciation and Enjoyment of Art, Music, Drama and Literature									•••	••
To Become Aware of Different Philosophies, Cultures and Ways of Life						•••				
To Better Understand One's Abilities, Interests and Personality					•					
To Gain Skills and Experience in Relating to Other People					•••					

[1]Employed graduates only. •p◀0.001 ••p◀0.01 •••p◀0.05

Graduates in different academic fields differed significantly regarding the extent they felt they had learned to communicate effectively through clear and correct speaking and writing, $\times^2(6,N=261) = 14.97$, $p<0.05$. This skill was considered to have been developed to a greater extent by graduates in the humanities or fine arts, and to a lesser extent by those in mathematics or computer science, and those in the health professions. These differences probably reflect student differences that led to the choice of different majors in the first place, as well as varying degrees of emphasis on communications skills from one academic major to another.

The only significant difference between respondents who graduated at different grade point levels was that those with higher grade point averages felt they had more adequately prepared for further graduate or professional study, $\times^2(3,N=261) = 45.53$, $p<0.001$. This probably reflects a realistic perception by students that those with higher averages are likely to be admitted to graduate or professional school. It may also indicate that those who planned to continue their formal education concentrated seriously on attaining a high grade point average.

Graduates whose fathers had attained relatively higher educational levels felt they had prepared for further graduate or professional study to a greater extent than those whose fathers had reached lower educational levels, $\times^2(2,N=261) = 8.11$, $p<0.05$. Graduates from higher socio-economic groups may have been confident that financial resources would be available to support graduate or professional education and, therefore, less concerned with acquiring immediate employment skills than those from relatively lower socio-economic backgrounds. Also, the influence of the father as a role model may have affected the educational aspirations of the respondents and, therefore, the extent to which they prepared as undergraduates to attend graduate or professional school.

Respondents who were satisfied with the quality of education they had received in their field of study, compared with graduates of other institutions, felt more positive about the degree they had developed or upgraded their employment skills, $\times^2(2,N=261) = 14.61$, $p<0.001$; enhanced their reasoning ability and learned to recognize assumptions, make logical inferences and reach correct conclusions, $\times^2(2,N=261) = 20.33$, $p<0.001$; learned to communicate effectively through clear and correct speaking and writing, $\times^2(2,N=261) = 10.87$; $p<0.01$; better understood their abilities, interests and personality, $\times^2(2,N=261) = 21.32$, $p<0.001$; and gained skills and experience in relating to other people, $\times^2(2,N=261) = 7.85$, $p<0.05$. Their satisfaction with the academic program was related to feelings of accomplishment of five of the eight outcomes investigated. This finding is noteworthy because many different majors were represented among the graduates and some of the outcomes were related more to personal growth than to intellectual skills.

In comparison with respondents who would not choose the same major field of study again, those who would do so felt that they had more successfully prepared for further graduate or professional education, $\times^2(1,N=261) = 5.87$, $p<0.05$, and developed or upgraded their employment skills, $\times^2(1,N=261) = 6.71$, $p<0.01$. On the other hand, those who would not choose the same major field again felt relatively more positive about the extent to which they had become aware of different philosophies, cultures and ways of life, $\times^2(1,N=261) = 6.42$, $p<0.05$. Satisfacton with choice of major, therefore, seems to be higher for graduates who felt that their college education had resulted in the practical benefits

of preparing for either employment or further graduate study and lower for those who felt that the benefits of their education were less tangible. This feeling may have been influenced by the fact that the questionnaire was filled out approximately one year after graduation. Graduates who may have had difficulty obtaining their first job or gaining entrance to graduate school may have been more interested in the practical benefits of their college education at that particular time. It would be interesting to compare this finding with the perceptions of graduates who had been away from the institution for a longer period of time.

Graduates who planned to continue their education beyond the bachelor's degree felt that they had prepared for further graduate or professional education to a greater extent than those who did not plan to study further, and those who planned to pursue the doctorate felt better prepared than those who planned to pursue a master's or professional degree, $\times^2(3,N=261) = 32.05$, $p<0.001$. Graduates who were continuing their education one year after graduation also felt better prepared for further graduate or professional study than those graduates who were employed, $\times^2(1,N=261) = 48.38$, $p<0.001$. Also, employed graduates felt that they had developed or upgraded their employment skills better than graduates who were continuing their education, $\times^2(1,N=261) = 4.30$, $p<0.05$. These results probably reflect decisions made by the graduates during their undergraduate years to either concentrate on preparing for graduate or professional school or on obtaining employment after graduation. Another possible explanation is that once the graduates had made a decision to pursue either graduate school or employment, they convinced themselves that their college experience had prepared them for the situation that was chosen.

Graduates who, one year after graduation, were employed in manufacturing and in education, felt they had been relatively more successful in preparing for further graduate or professional study, $\times^2(5,N=188) = 41.47$, $p<0.001$. Those employed in the health field felt especially positive about the extent to which they had developed or upgraded their employment skills, $\times^2(5,N=188) = 11.73$, $p<0.05$. Those working in wholesale or retail trade and in banking, finance, insurance or real estate, felt relatively more positive about the extent to which their college experience had helped them enhance reasoning ability, recognize assumptions, make logical inferences and reach correct conclusions, $\times^2(5,N=188) = 11.85$, $p<0.05$, as well as to communicate effectively through clear and correct speaking and writing, $\times^2(5,N=188) = 17.86$, $p<0.01$. Finally, an appreciation and enjoyment of art, music, drama and literature was developed to a greater extent by those graduates who obtained employment in banking, finance, insurance or real estate, $\times^2(5,N=188) = 11.18$, $p<0.05$. Differences in field of occupation, therefore, were related to differences in perceived extent of accomplishment of five of the eight outcomes investigated.

Finally, employed graduates who considered their jobs to be more directly related to their academic majors felt that their college experience had adequately helped them develop or upgrade their employment skills, $\times^2(2,N=188) = 29.12$, $p<0.001$. On the other hand, those whose jobs were less directly related to their majors felt that their college experience had been relatively more successful in helping them to communicate effectively through clear and correct speaking and writing, $\times^2(2,N=188) = 8.97$, $p<0.05$, and to appreciate and enjoy art, music, drama and literature, $\times^2(2,N=188) = 15.98$, $p<0.01$. Those whose jobs were less directly related to their majors may have been liberal arts majors who might be expected to have developed their communication skills and appreciation for the arts to a greater extent than graduates in technical majors directly related to job specifications.

CONCLUSIONS

The results of this study may be useful to the practitioner and the theorist in a number of ways. Faculty members, academic advisors, and counselors might use this information to more effectively help students clarify and accomplish the goals of their college experience. For example, the fact that there were no significant differences between male and female graduates as to the perceived accomplishment of the eight outcomes should be considered by university staff and faculty in providing academic advising, career counseling, and other services to male and female students.

Knowledge of how different types of students differ in their perceptions of the extent of accomplishment of different outcomes may also be used in structuring institutional policies and programs, and in direct interactions with students. For example, students who were satisfied with the quality of education they received in their academic major were also more positive about the accomplishment of many of the outcomes. Because of this positive correlation, institutions should give special attention to helping students select appropriate majors and to using student evaluations of faculty members in efforts to improve the quality of instruction.

In addition to providing information for practitioners in higher education, this study was also intended to add to the body of knowledge about student outcomes. The fact that accomplishment of outcomes was analyzed according to differences in various student characteristics makes this project somewhat unique. Further research in this area might compare the importance attributed by freshmen to these eight possible outcomes with the perceived accomplishment of these same individuals one year after graduation and again several years after graduation. Also, other possible outcomes and other student characteristics might be studied. Finally, additional research on this topic could focus in greater detail on several of the characteristics studied in this project, such as academic major or satisfaction with education in major field of study.

The findings of this project, therefore, provide information which may be useful to faculty members and administrators in their efforts to assist students and also to theorists interested in the outcomes of higher education.

Developmental Advising of Undeclared Students Using an Integrated Model of Student Growth

LINDA PETERSON, *Assistant Professor, Department of Psychology*, and

EILEEN McDONOUGH, *Associate Dean, School of Arts and Sciences, Barry University*

Although the academic advising profession is not new, the development of systematic research and theory within the field has been relatively recent. For example, the undeclared majors problem experienced by academic advisors has given rise to a number of recent studies that have examined the problems of students who were undeclared majors, and found them to be significantly different from other college students. They have lower GPA's,[1] more identity concerns, and tend to leave college at a faster rate than declared students. They are more anxious, and have a greater need for career information. They are more dependent; they are less willing to take risks.[2] They also lack knowledge of self, decision-making skills, work experience and knowledge about occupations.[3,4] These characteristics make undeclared majors difficult to work with. Advisors of undeclared majors need specific strategies to help them deal with this student population. At present, such strategies have not been developed. Hindering effective strategy development has been a tendency to view undeclared majors as a uniform group. However, undeclared majors, like declared majors are at various levels of maturity, and the development and implementation of advising strategies must incorporate these levels and the students' perspective. This paper presents an integrated model of college student development applied to the undeclared major, and concludes with recommendations for dealing with students at different levels of maturity.

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[3] T. Baird, *The Undecided Student -- How Different is He?* ACT Research Report No. 22, Iowa City: American College Testing Program, 1967.

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