

The Follow-up Survey as a Student Outcome Assessment Method: Some Procedures and Examples

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Abstract

Assessment is needed in higher education to provide accountability for public funds, to ensure a well-trained work force, and to improve effectiveness of programs. Outcome assessment is a movement in higher education to document students' progress or the outcome after their exposure to college (Erwin, 1991). A popular student outcome assessment method is the graduate follow-up (alumni) survey. This article reports how follow-up studies of graduates and employer surveys have been conducted and used over time to provide data for improvements in the Agricultural Systems Technology Curriculum at Iowa State University. The assessment model employed, the procedures used to collect the data, and examples of outcomes observed will be shared.

Introduction

Assessment is needed in higher education to provide accountability for public funds, to ensure a well-trained work force, and to improve effectiveness of programs. Outcome assessment is a movement in higher education to document students' progress or the outcome after their exposure to college (Erwin, 1991). Banta et al., (1996) advanced that assessments should employ an array of methods over time to capture and reflect the nature of learning. Erwin (1991, p. xv) stated that "most administrators and faculty in higher education know the need to document the worth of their programs and services the term student outcome assessment is most frequently used to refer to these activities."

A popular student outcome assessment method is the graduate follow-up (alumni) survey. Wentling (1980) noted that follow-up surveys are designed to evaluate the graduate, the product of a program, and that graduates are in a position to judge the strength and weakness of a program. Additional data with which to evaluate a program can be obtained through employer surveys. By utilizing data from

both graduates and their employers, better decisions can be made regarding modification that may be needed in a curriculum. An added dimension can be achieved by the use of longitudinal surveys to detect trends. Trend studies are concerned with changes in similar samples from the same general population over time (Borg and Gall, 1989; Keeves, 1988). For example, if graduates were surveyed at regular time periods, variables measured were held constant, and the sample was allowed to vary over time, trends within the population could be detected (Keeves, 1988). Best (1970) advanced that the trend analysis is an application of the descriptive research method, based upon a longitudinal consideration of recorded data.

This article reports how follow-up studies of graduates and employer surveys have been conducted and used over time to provide data for improvements in the Agricultural Systems Technology Curriculum (previously called Agricultural Mechanization) at Iowa State University. The objectives were to: (1) identify factors influencing graduates to select their college major, (2) determine employment characteristics of graduates, and (3) determine the adequacy of the educational program in preparing individuals for job entry as perceived by graduates and their employers. The assessment model employed, the procedures used to collect the data, and examples of outcomes observed will be shared. Best (1970, p. 136) stated that "Studies of this type enable an institution to evaluate various aspects of its program in light of actual results".

Methods

The Assessment Model

Figure 1 presents a model used by the Agricultural Systems Technology Curriculum in assessing students outcomes since the beginning of the curriculum in 1973. The horizontal arrows show the groups of graduates involved in three follow-up surveys and the vertical bars represent the data collection points in time. All graduates during each period constituted the population and the sample for the as-

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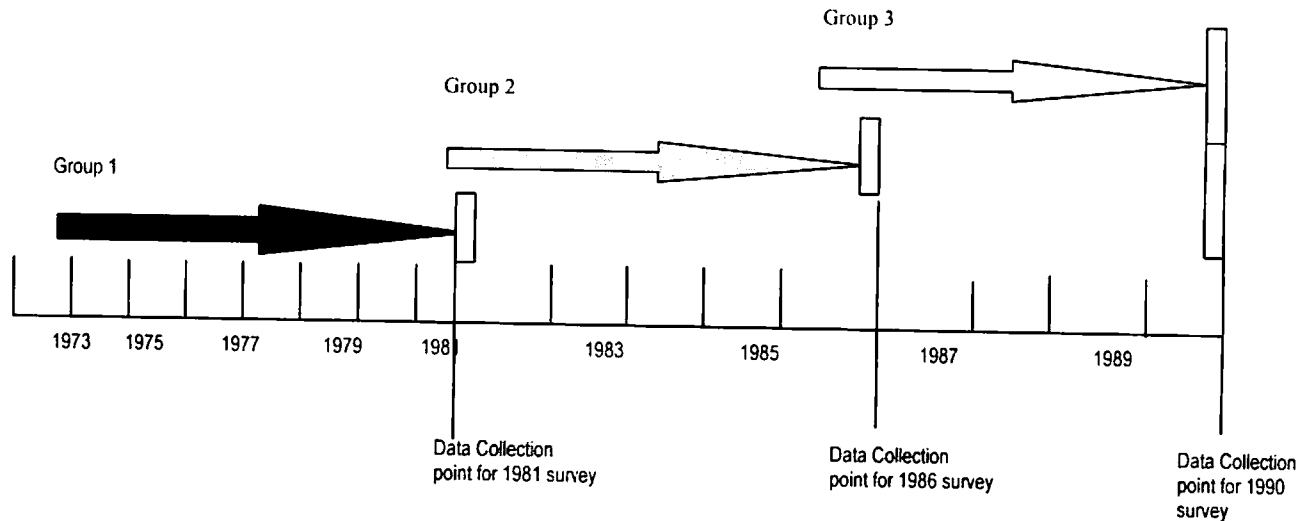


Figure 1. This Assessment model (Steffen, 1993)

assessments; 68 in this 1981 Group (Heard, 1981), 92 in the 1986 Group (Bekum, 1987), and 50 in the 1990 Group (Steffen, 1993). The 11 graduates with foreign addresses at the times of data collection were not included. The response rate for the three groups of graduates ranged from 58 to 88 percent. All employers named by the responding graduates were surveyed each time. Employer responses were 30, 22 and 19 for the 1981, 1986 and 1990 groups respectively.

Assessment Procedures

The graduate follow-up survey consisted of five introductory questions designed to provide data about the graduates' employment, including occupational title and name and address of the employer and immediate supervisor, and three major sections. Section one obtained graduates' perceptions on the degree of influence selected factors had on their decision to major in Agricultural Systems Technology and their opinions concerning aspects of their education, including quality of the curriculum, quality of academic advising, and adequacy of laboratory facilities.

Section two asked graduates to indicate if they felt the number of credits in ten skill areas should be maintained, increased, or decreased and to rate the adequacy of training received in each area.

Section three gathered data related to the employ-

ment history of the graduates, including current employment status, place of employment, and salary range. Space was provided at the end for additional comments. A panel of faculty and students familiar with the curriculum reviewed the instrument for clarity and content validity, and appropriate use of human subject approval was obtained.

The employer survey asked the employer (immediate supervisor) to compare the graduate with other entry level workers, make comments concerning changes or improvements that they felt would help to improve student preparation for entry jobs, and rate graduate in ten skill areas (same ones included on the graduates' survey) and indicate if the graduate needed additional training in any of the areas.

Changes in content and format were kept to a minimum across the three assessments. Some questions were added to gather specific data related to a point in time, e.g. the 1981 graduate follow-up survey asked: "Do you think the Agricultural Mechanization Curriculum should include areas of specialization? If so, name some areas," and "Do you think Agricultural Mechanization is an appropriate name for the degree program at Iowa State University? If not, suggest an alternative name." Data was collected by mail for all three assessments using cover letters to greet the graduates and employers and explain the surveys; follow-up mailings were made to those who did not respond within two weeks.

Results and Discussion

Examples of Outcomes Observed

Data from three follow-up surveys show the general directions in the characteristics and perceptions of graduates of the Agricultural Systems Technology Curriculum and the perceptions of the graduates' employers across the first seventeen years of the program. Selected outcomes observed are summarized below and illustrated with graphs to show how data from assessments can be presented to faculty and administration for use in program evaluation (Steffen, 1993):

- The percentage of graduates who were self-employed declined from the 1981 Group to the 1986 Group and then leveled off in 1989 (Figure 2).
- There was a shift away from farming, agricultural machinery, and agricultural finance areas of employment immediately after college to the agricultural products and sales area (Figure 3).
- The role of the academic (faculty) advisor increased with regard to the influence on the student's decision to pursue a major in Agricultural Systems Technology (Figure 4).
- The employers' perception of the graduates' adequacy of training in has remained steady while the graduates perceived the adequacy of training in these areas as having decreased (Figure 5).
- Graduates employed by others generally started at a higher salaries than self-employed graduates (Figure 6).

Curriculum Modifications

Faculty and administration at Iowa State University have used the data provided by graduate follow-up surveys and employer surveys over time, along with other sources of information, in making decisions regarding modifications needed to improve the Agricultural Systems Technology Curriculum. An examination of the current and past Iowa State University catalogues reveal the following curriculum changes since 1981:

- "Production" and "Business" specialization options were added within the curriculum (Iowa State University, 1983).
- "Computer Applications" was added as a third specialization option within the curriculum (Iowa State University, 1985).
- "Grain Operations" was added as a specialization option replacing "Computer Applications" (Iowa State University, 1989).

- Name of the curriculum was changed from Agricultural Mechanics to Agricultural Systems Technology and a fourth specialization option, "Applied Technology," was added (Iowa State University, 1991).
- "Agribusiness Management" was added as a specialization option replacing the "Business" option. In addition the following were added as requirements for all curricula in the College of Agriculture: a three credit ethics course, a three credit critical thinking course, a three credit international/multicultural awareness course, and a communication intensive, environmental intensive, and problem solving intensive experience equivalent of three credits each from one or more courses within the major (Iowa State University, 1993).

Two options, (1) "Systems Technology and Management" with four specializations: "Production Agriculture", "Agribusiness Management," "Grain Operations," and "Applied Technology," and (2) "Environmental Systems Technology" replaced the four specialization options described above (Iowa State University, 1995).

Summary

The data from longitudinal follow-up surveys and trend analysis can be used in assessing and presenting student outcomes. Best (1970, p. 136) wrote that "The trend study points to conclusions reached by the combined methods of historical and descriptive analysis." Graphs can be developed to illustrate the findings, helping faculty and administration consider implication for curriculum improvement.

The following recommendations are presented for using the follow-up survey as a student outcome assessment method: (1) establish objectives for the follow-up; (2) plan for data collection at regularly scheduled intervals (intervals of five years are recommended) to facilitate trend analysis; (3) involve current students in the curriculum to be evaluated in planning and interpreting data so they will be ready to participate in future follow-up surveys; (4) involve faculty and administration in planning activities, including identification of questions to be asked, so they will be effective consumers of the findings; (5) collect data from both the graduates and their employers, asking some similar questions to allow for comparisons; (6) keep the variables studied and the response frame as constant as possible; (7) include specific questions to gather data related to points in time; (8) use consistent procedures to collect data over time, and (9) summarize and present findings and trends to decision makers for use in program improvement.

Percent of Graduates

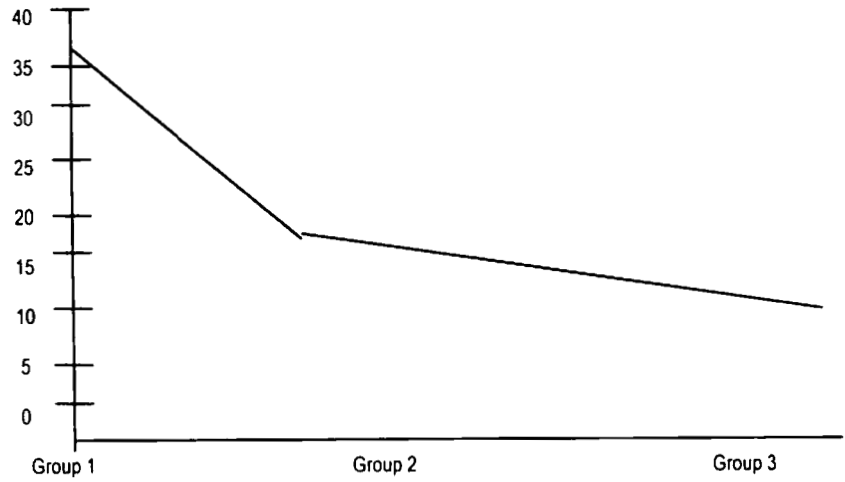


Figure 2. Trend in the percentage of graduates who were self-employed.

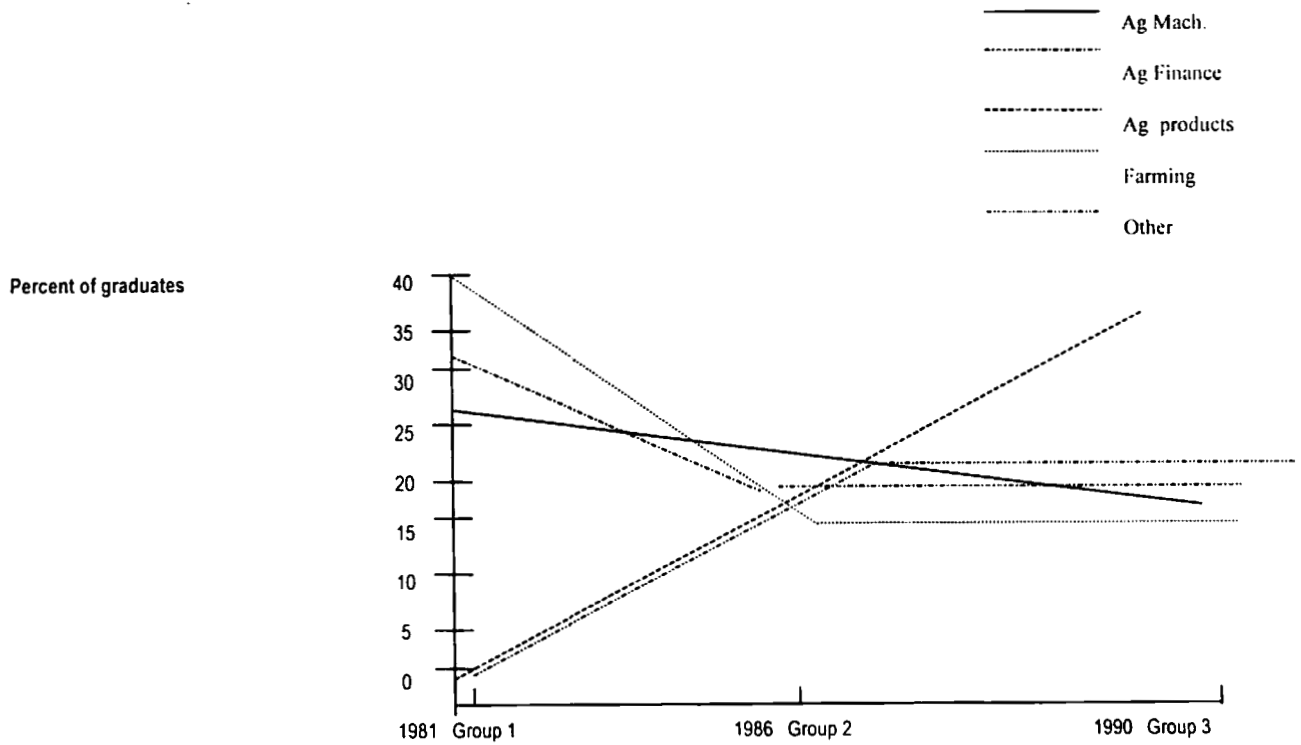


Figure 3. Trends in the percentage of all graduates employed in selected employment areas.

Mean Rating

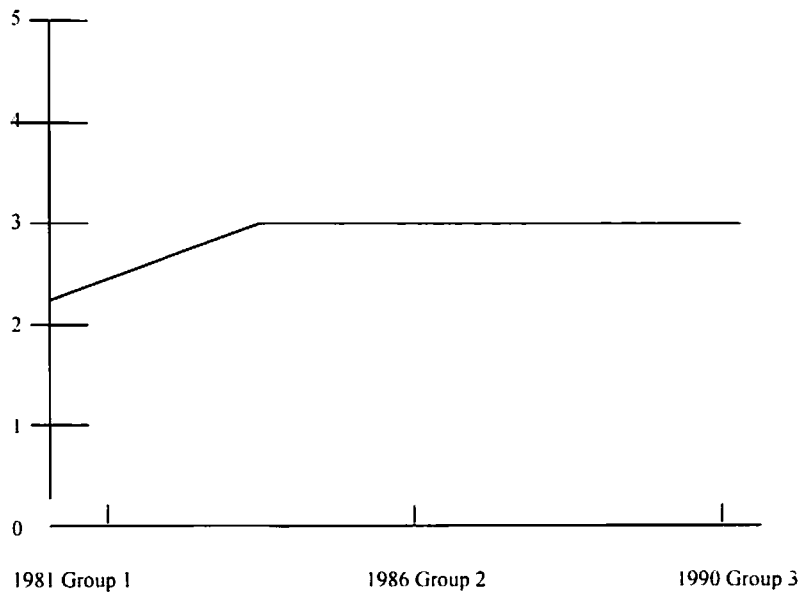


Figure 4. Trends in graduates' mean rating of the influence of the academic advisor on their decision to pursue a degree in Agricultural Mechanization.

Mean Rating

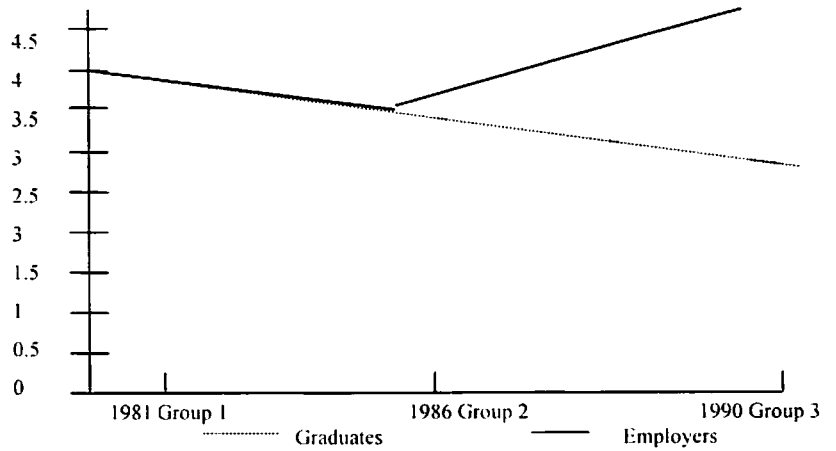


Figure 5. Trends in the perceptions of graduates and employers regarding the adequacy of training of graduates.

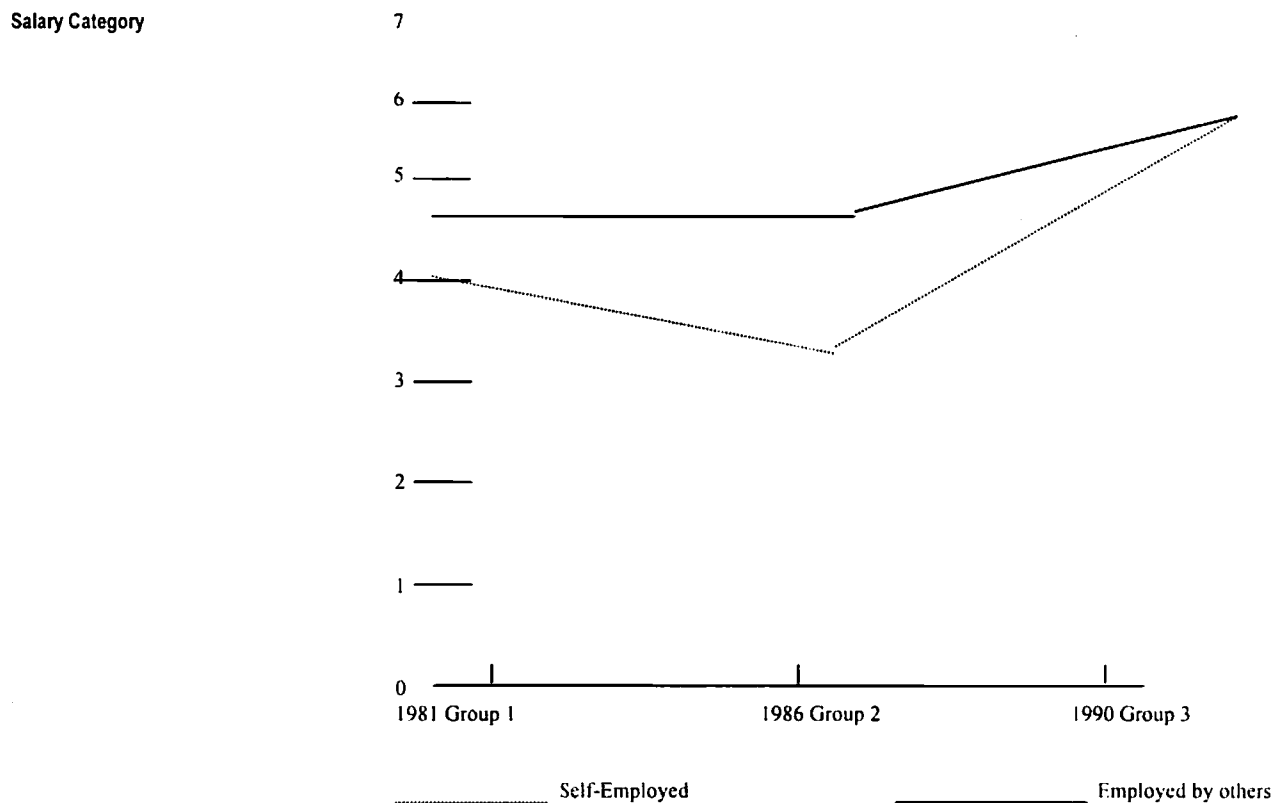


Figure 6. Trends in the mean salary category of self-employed graduates and those employed by others for first salary.

Carefully planned and conducted follow-up surveys can contribute to student outcomes assessments that are underway on many college and university campus. A North Central Association Self-Study Accreditation Report revealed that colleges and departments at Iowa State University are using multiple measures of student achievements, including the graduate follow-up and employer survey methods (Iowa State University, 1996). Moden and Williford (1996) advocate the use of program-specific information collected via graduate follow-up surveys in both near-term and long-term planning and decision-making.

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Bridging the Distance: Linking Current Students with Alumni via the Internet

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Abstract

Agricultural students are often extraordinarily interested in career opportunities, how to interview and acquire a good job, and what life in the "real world" will be like after graduation. To better meet this informational need, several strategies of linking current students with former students will be described and evaluated. The development of an "Alumni Career Bank" on the Internet provides current students with the names, job titles and descriptions, addresses, phone numbers, and E-mail addresses of former students. The Career Bank offers numerous opportunities for both teachers and students, including: (1) teachers remain in close contact with Alumni, (2) current students can contact and learn from former students, (3) Alumni remain in close contact with their classmates, and (4) recruiters and employers can look for qualified individuals to fill potential employment opportunities.

Introduction

"Current Agricultural and Natural Resource Policy Issues," AGE 610, is a capstone, senior-level class offered in the Department of Agricultural Economics at Kansas State University (KSU). The course curriculum was developed to integrate and synthesize four years of higher education into a meaningful and rewarding experience for graduating seniors (Barkley, 1995). Similar to other capstone courses, the course not only strives to pull together major themes from previous courses, but also builds a bridge between a college education and the students' soon-to-begin careers. Since the course is taken in the Spring semester of the senior year, enrolled students are often keenly interested in life after graduation,

¹ Associate Professor. This paper was presented as a selected paper at the 1997 NACTA annual meetings, Ames, Iowa, June 24, 1997

and frequently ask questions such as: What will the working world be like? Am I prepared? What strategies can I follow to be successful? How do I know that the job offer I recently accepted is a good "fit" for me?

The urgency and persistence of these questions over several years led to the development of the "AGEC 610 Alumni Career Bank," which is simply a listing of names, job descriptions, and phone numbers of all previous students of the course. Following the lead of instructors who have incorporated computer technology into the classroom (Herr and Parsons, 1995; McCaslin and Torres, 1992), and World Wide Web pioneers (Green, 1996; O'Kane and Armstrong, 1997), the Career Bank was made available on the Internet for seniors enrolled in AGE 610 (<http://www-personal.ksu.edu/~barkley/alumni610>). Students are now able to contact former students for timely, relevant answers to career questions that faculty may not be fully knowledgeable about, such as life in the rapidly changing world of Agribusiness, or simpler, more applied questions such as concerns about internal office politics, or how to get along with a father unwilling to share decision making authority of a family farm.

Placing of graduating seniors into jobs that are best suited for them is one of the most important missions of higher education. A previous analysis of an extensive survey of agricultural graduates of Kansas State University concluded that placement of graduates into jobs that match their personal characteristics, abilities, and career goals is a critical element of successful degree programs. Job satisfaction dominated all other determinants of alumni perceptions regarding satisfaction with college experiences (Barkley, 1993). The development and use of the Alumni Career Bank has provided many benefits to the students and teacher of the course. Some of these benefits were anticipated; others were not.