

# Integrating Career Exploration and Planning in STEM Through Faculty

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St. John Fisher College's career center provides services and resources to support students in their career development process by collaborating with faculty to promote career decision making and planning.

The career center at St. John Fisher College is charged with providing a comprehensive menu of services and resources to support students in all phases of career development. With a small staff and limited resources, the career center reaches across campus to team up with faculty to promote career decision making and planning. The goal is to engage students early and at regular intervals throughout their college careers.

The college's biology program is among the most popular undergraduate majors declared by incoming first year students. To engage students in career planning, Ed Freeman from the biology department teaches a junior seminar course in which the students are required to research careers and graduate programs and the paths to those programs. For a group project in the course, students create poster presentations based on their career research and present the posters to other students at the Career Expo. The audience for this expo includes faculty, administration, and students in the departmental introductory biology course, comprised mainly of freshmen but also includes some who are further in their academic studies. The Career Expo provides junior students an outlet for their research efforts and gives the attendees an opportunity to learn about potential careers. This model assists the career center in reaching and serving a large number of undergraduates using peer-to-peer learning.

The Career Expo encourages attendees to think about future possibilities as biology majors through peer interaction early in their college careers. Many first-year students have limited knowledge and exposure to occupations and the Expo bridges this knowledge gap by providing a better understanding of occupational requirements and the importance of academic achievement.

## Biology Junior Seminar Course

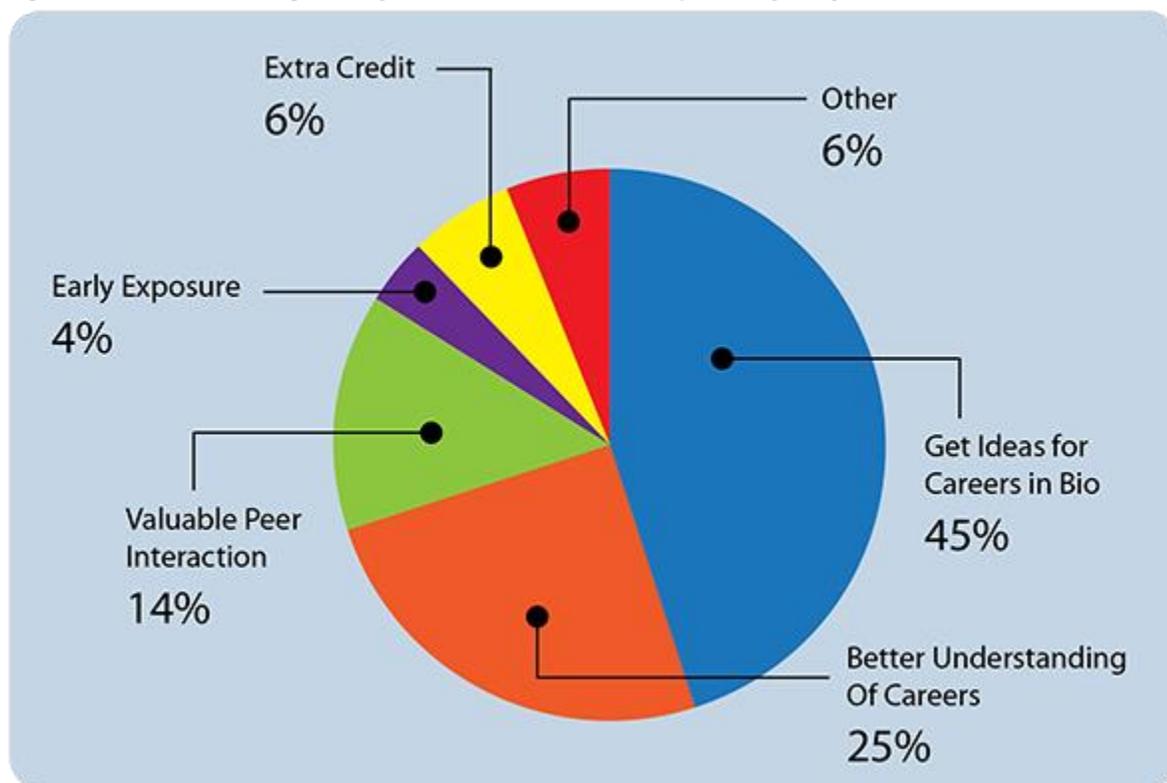
The junior seminar course enables students to explore different career opportunities and gain an understanding of the educational training requirements of specific careers. These students are encouraged to explore several careers in the field of biology, and select one career to conduct more in-depth research on. At the Career Expo, the junior seminar students present their findings to attendees based on knowledge gained through their research assignments.

Juniors complete a series of research assignments on topics including choosing a career, training and advanced educational programs, entrance requirements, interviewing skills, creating resumes, and professional etiquette. Based on their career goals, students are assigned to groups (of up to four people) to create a poster on their chosen topic. A career center professional leads a class discussion on professional etiquette and presentation skills, and provides relevant information for the introductory biology students. If popular career paths, such as medicine and pharmacy, have multiple poster groups, each of those groups covers a specific aspect of the career path, including a general overview of the career field, experience necessary to enter the field, training and entrance requirements, and future career pathways and projections. The students have two in-class group work sessions in which to generate ideas, develop poster content, and have the professor review it. Students are encouraged to work outside of class as needed to complete the final presentation.

The Career Expo is held during the junior seminar 80-minute class period, and students from the departmental introductory biology course are invited to attend. Students from the intro class who attend the Expo receive two extra credit points toward one unit exam in their course and are required to ask questions of juniors based on the poster presentations. These students are given a list of sample questions which were generated by the juniors, but also can ask questions based on their own interests and knowledge gaps. Following the event, both junior students and Expo participants are surveyed to capture their impressions and learning outcomes of the Career Expo.

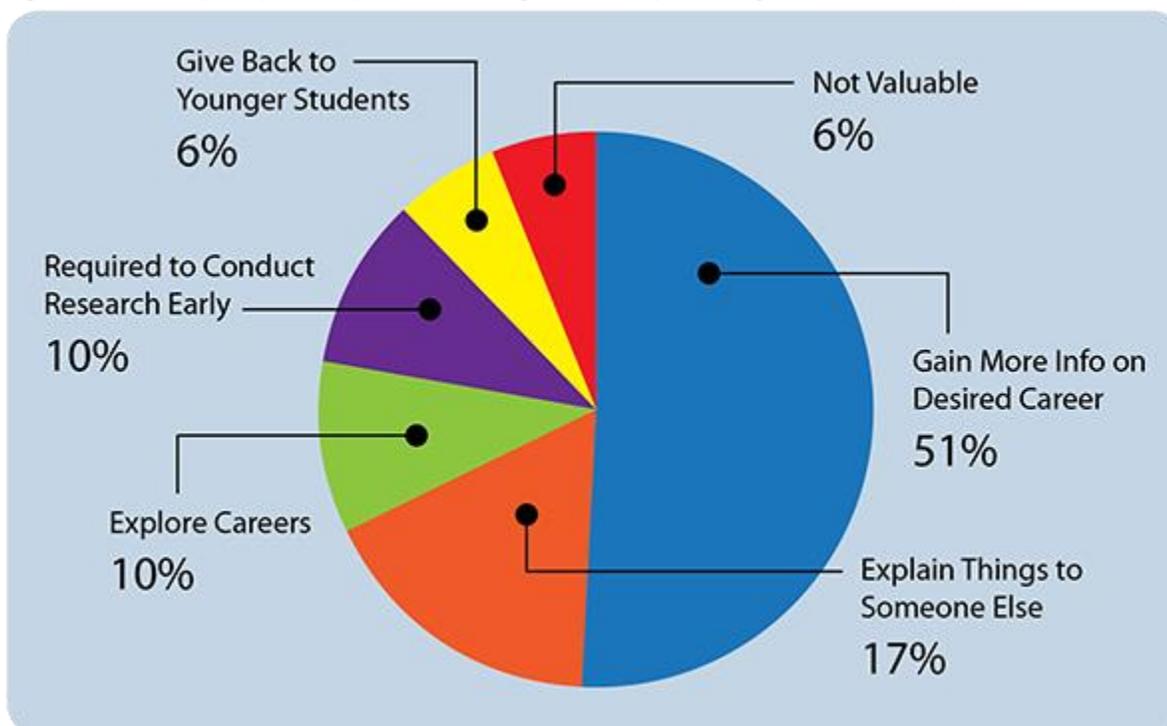
Additional qualitative responses were collected and analyzed relating to the value gained and learning outcomes of the event. Juniors were asked to describe the value the attendees gained from the Expo, and their responses displayed five main themes: Attendees gained ideas of various careers in biology, a better understanding of the fields they are considering, knowledge through peer interactions, early exposure to careers in biology, and extra credit toward the introductory biology course. (See Figure 1.)

Figure 1: Perceived value gained by freshmen attendees, as reported by the juniors



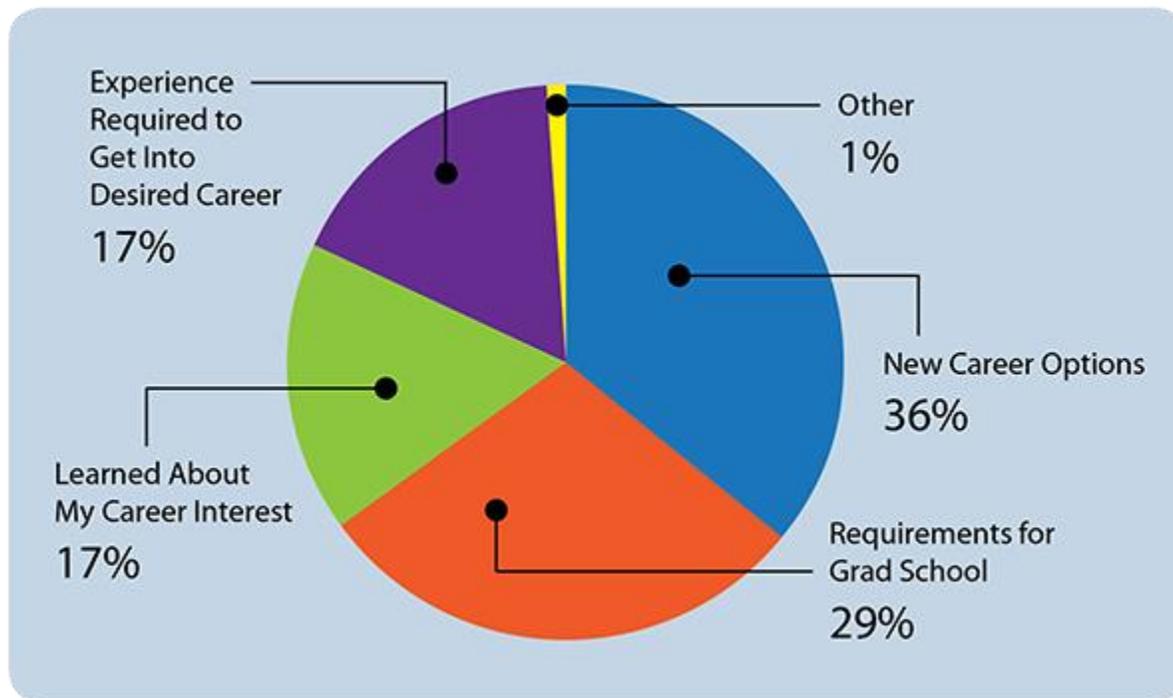
Juniors who presented at the Expo also described the value they gained from presenting this information to their peers. These junior students who researched and presented the posters and information gained a better understanding of their desired career field, increased their public speaking and presentation skills; explored various careers in biology; and gave back to younger students. (See Figure 2.)

Figure 2: Juniors' perception of personal value gained from presenting at the Career Expo



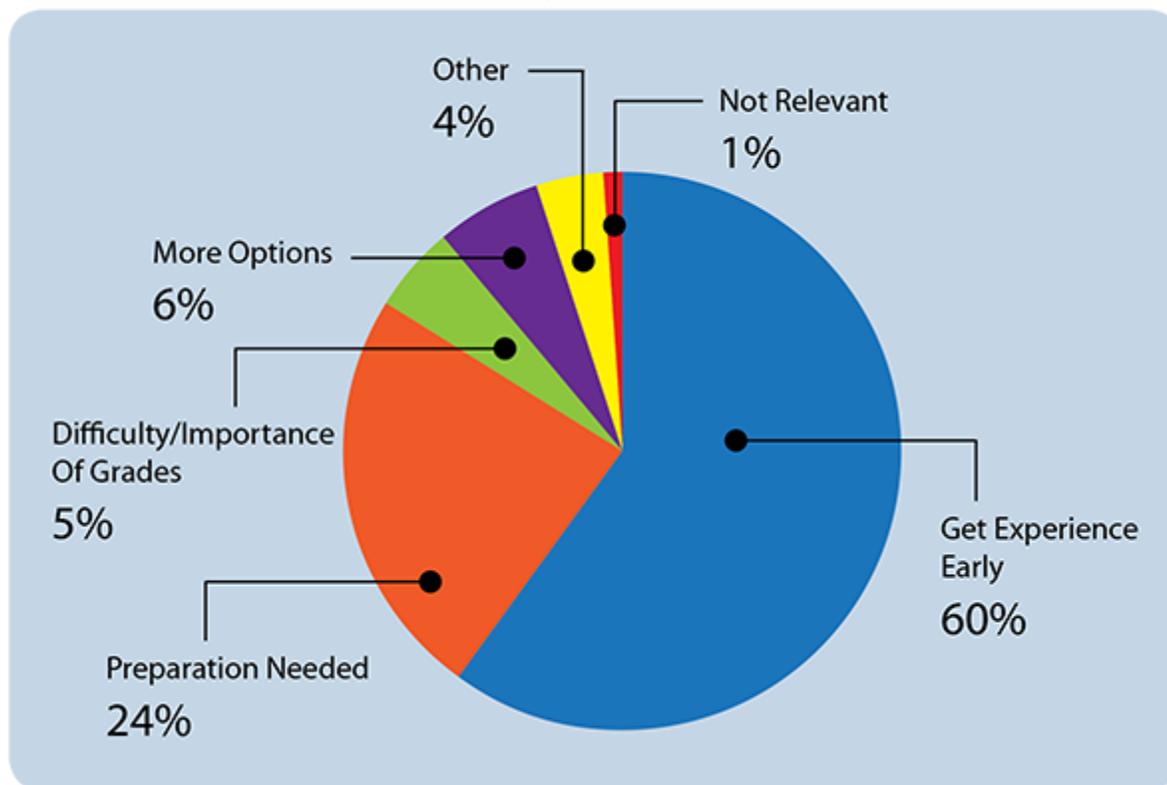
The attendees were asked what they learned from the event and what relevant advice they received from the junior students. The two most frequent responses from participants were that they learned about new career options as well as requirements for applying to graduate programs in specific areas. They also learned about the career fields they were planning to pursue and what experience was necessary for jobs in those professions. (See Figure 3.)

Figure 3: Learning outcomes for freshman due to Career Expo attendance



The most frequent advice attendees received from the junior students pertained to gaining experience early through shadowing, volunteering, and conducting research. They also received advice on preparing for careers, performing well academically, and exploring options within biology. (See Figure 4.)

Figure 4: Relevant advice freshmen received from juniors



#### Collaboration Results

The biology department and career center have collaborated on this project for the past three academic years. This has helped the career center reach more students at regular intervals through course assignments pertaining to career research and exploration. The Career Expo promotes career planning through peer-to-peer interaction. Students meet learning outcomes and objectives set forth by the biology department and career center. The event is a creative way to visually display the variety of career options available to biology students.

The Career Expo encourages both freshmen and junior students to begin researching and exploring career opportunities within the field of biology. The freshmen are exposed to diverse career opportunities and gain industry knowledge based on the career interests of the juniors. Expo participants (juniors) realize that they need to start the career planning process early to achieve their career goals. The juniors' research exposed them to more specific information on their desired career field and training requirements, and to career opportunities in the broader field of biology. Junior students also solidified their knowledge on career topics by presenting the information and responding to questions from the younger students.

This program shows career practitioners the value of engaging students early and at regular intervals during their undergraduate program. Career services plans to track the freshmen attendees over the next three years to determine if early exposure to options and career information positively impacts their decision making and planning.

#### Improvements to the Career Expo

Over the three years the Career Expo has been held, changes have been based on student feedback from follow-up surveys. The 2012 results showed that improvements still need to be made on the space and layout of the event, and how the participants interact with the presenters.

One issue presented by participants anecdotally in the surveys was that the room layout led to overcrowding. This has happened because the most popular topics with multiple posters are grouped together. To address this issue popular poster topics will be located throughout the room to alleviate overcrowding. Also, this will

encourage attendees to check out posters that are outside of their current career interest area as they seek out information on their primary interest.

Freshmen and junior students expressed frustration with having sample questions provided to participants. The juniors felt that participants only asked the sample questions, so they had to answer the same questions repeatedly. The attendees sensed that frustration and noticed that the juniors seemed put off by this. Both groups suggested that the participants ask their own questions, rather than the provided sample questions. To continue to improve in this area, next year the juniors will create a “pitch” or introduction of their poster, and participants can then follow up with questions based on what they just learned and their understanding of the poster topic. In addition, the juniors will be required to respond to more general reflective questions of their experience at the Expo.

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