# The Value from the Perspective of the Workplace/Community


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A commercial aired during basketball season in which a student athlete is shown in the gym doing basketball drills while the voice-over claims "I'll probably end up in Chicago or New Orleans." After a pause, the student comments, "that is where most jazz musicians go". There are several NCAA commercials like this that show collegiate athletes from different sports who vaguely talk about their career goals. Each commercial ends with the tag line "most athletes are turning pro in something else." The same can be said for psychology majors. Most psychology majors do not pursue careers as psychologists. Instead, most psychology majors go "pro in something else". Fortunately, psychology is an excellent major for developing the skills that employers desire. Students who engage in undergraduate research are particularly well qualified for the job market (cf., Sleigh & Ritzer, 2007). Therefore, in this chapter, I will examine the skills employers are looking for in employees along with the skills developed through research in order to highlight the match between research and employment opportunities. I also present some strategies for marketing these skills.

## Employment Skills

A number of psychologists have examined the types of skills employers are interested in (e.g., Appleby, 2000; Gibson, Kahn, & Mathie, 1996; Landrum, 2001; Landrum & Harrold, 2003; Sleigh & Ritzer, 2004). There is considerable consistency in their findings. Employers generally want their new employees to have good interpersonal and communication skills, to be able to solve problems, to have a desire to learn new skills, and to be able to adapt to changing situations. Similarly, the Occupational Information Network (http://online.onetcenter.org) has identified six groups of skills for identifying potential career opportunities by matching personal skills with the skills required for a particular job. These skill groups include basic skills, complex problem solving skills, resource management skills, social skills, systems skills, and technical skills. Basic skills center on facilitating learning and acquiring new knowledge. Within this skill set is the ability to understand the implications of new information, to ask appropriate questions, to evaluate the strengths and weaknesses of arguments, looking for alternative explanations, and using math and science to solve problems. Additionally, employers want to hire employees who can comprehend written material, write effectively, and be able to clearly articulate information orally.

Complex problem solving skills relate to the ability to solve novel and ill-defined problems in real-world settings. To accomplish this, employees must be able to identify complex problems and review related information in order to develop and evaluate potential solutions. Resource management skills pertain to the efficient use of resources. Resources can be financial, material, personnel, and time. Social skills concern the ability to work with other people. Included in this skill set is the ability to adjust one's own actions in relation to the actions of others, to teach others how to do something, helping others reconcile differences, persuading others to change their minds, looking for ways to help others, and understanding the reactions of others to your own actions. System skills relate to understanding, monitoring, and improving social systems. Therefore, considering the cost/benefit of certain actions, determining how to improve a procedure, process, or interaction, and assessing and improving performance are valuable skills. Finally, technical skills are associated with machines and technical equipment. These skills include installing equipment, performing maintenance and repairing equipment, and monitoring equipment for proper functioning. Selecting the proper equipment for a job, analyzing product requirements, programming and software proficiency, and troubleshooting are important skills in this set as well.

## Research Skills

How is research related to employment skills? First, it is important to examine the requirements of a

student who conducts a research project. In general, research requires that you develop a knowledge base on a topic or topics, identify important questions, assimilate information relevant to those questions, design a strategy or method for assessing and answering the questions, understand the implications of the answers, and describe the entire process in verbal and written form. Undergraduate research opportunities, therefore, should require students to read scientific literature; design some aspect of the research project; work on a team independently of, but mentored by, a faculty member; have a sense of ownership in the project; master a laboratory technique or method; and have the opportunity to present the research orally and in writing (Lopatto, 2003). As a result, research provides an active learning experience in which students can identify and develop a variety of skills. For instance, LaRoche (2004) noted that conducting literature reviews, determining the proper methodology, controlling variables, using statistics, and preparing presentations are among the things learned best through undergraduate research opportunities rather than through class work alone. Further, she noted that research can lead to higher levels of insight, analytic abilities, and collaborative experiences (including mentoring).

With regard to specific skills, many aspects of conducting a research project map nicely onto specific employment skills (see Table 1). Research can improve these skills. For instance, Bauer and Bennett (2003) found that students involved in undergraduate research show significantly higher skills associated with speaking effectively, independently acquiring information, acting as a leader, understanding scientific findings, using statistics and math, critically analyzing literature, having clear career goals, and displaying intellectual curiosity as compared to students not involved in research.

Students appear to be aware of these skills and their development as well. For example, Lopatto (2003) found that students most frequently claimed that the most beneficial outcomes of research included learning the research process, learning to work independently, learning laboratory techniques, and understanding scientific reasoning. As students progress through the research process they become more productive in regard to scholarship and more confident in their abilities, feeling more prepared for jobs and graduate programs than their counterparts who were not mentored through the research process (Koch, 2002). In addition, as students continue in research over one, two, and three semesters, the benefit they derive from research increases (Bauer & Bennett, 2003).

**Table 1**

***A non-comprehensive list of skills valued by employers and the related research skills or experiences***

| Employment Skills | Research Skills/Experience |
|---|---|
| Use the scientific method to solve a problem | Developing a hypothesis, designing a study, collecting and analyzing data, and interpreting the results |
| Gather and organize information from multiple sources | Conducting a literature review; writing the introduction and discussion |
| Remaining open-minded about alternative explanations | Considering competing theories and alternative accounts of the data |
| Determine the proper equipment needed for the task | Designing a study |
| Hold high ethical standards | Proper treatment of participants including informed consent, debriefing, and confidentiality |
| Statistical analysis using software (e.g., Excel, SPSS)* | Analyzing data |
| Perform descriptive and inferential statistics | Analyzing data |
| Write clearly and precisely while addressing the needs of the audience | Writing a journal-style paper |
| Prepare presentation with software (e.g., PowerPoint, Publisher, etc.) | Preparing a poster presentation or a talk |

## Selling Skills

If research serves as a tool for developing the skills that employers are interested in, it is important for students to understand exactly what they are learning to do through research so that they can convey those skills to potential employers. Therefore, it is important for faculty members to help students see and document all of the skills learned during the course of a research project being sure to include specific examples whenever possible. An example form for accomplishing this type of documentation appears in Table 2. A list of skills learned is important for preparing a resume. When a student lists working on a research project as a related-work experience, he or she can provide a short summary of responsibilities and can indicate the skills learned or utilized while working on the project. Documenting skills on a resume can also help get an interview. Furthermore, having specific examples of successfully applying those skills can enhance an interview. During interviews, the examples become important because students can describe specific instances in which they used particular skills and what they learned from those

instances. In addition, they can present these examples with confidence knowing that they were successful in the past applying their research-related skills; therefore, they will likely be successful on the job applying those same skills. Displaying an appropriate level of confidence in one's ability may help secure the position.

Although faculty can help students prepare resumes, faculty are generally more familiar with vitas and with evaluating people within the academic community but not as familiar with evaluating people in the business world. Therefore, students should also be encouraged to use Career Services to properly hone a resume that conveys their research-related skills in the most effective manner. Mock interviews are also available through Career Services. Mock interviews provide an excellent opportunity for students to practice incorporating relevant examples of their research skills and experiences into responses to typical interview questions.

## References


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## Table 2

### *A sample form for documenting the skills learned or enhanced during a research project*

| General Project Information |
|---|
| Project Title:<br><br>Co-Authors:<br>Faculty Mentor: |
| Hypothesis:<br><br>Independent Variable(s):<br><br>Dependent Variable(s):<br><br>Design:<br><br>Findings and Implications: |

| Skills |
|---|
| o Plan and carry out a project successfully<br>o Use the scientific method to solve a problem<br>o Show initiative and persistence<br>o Gather and organize information from multiple sources<br>o Understand written material in work related documents<br>o Think logically and creatively<br>o Identify complex problem(s)<br>o Remained open-minded about alternative explanations<br>o Determine the proper equipment needed for the task<br>o Install equipment<br>o Monitor and maintain equipment<br>o Computer programming*<br>o Hold high ethical standards<br>o Statistical analysis using software (e.g., Excel, SPSS)*<br>o Perform descriptive and inferential statistics<br>o Document preparation using Word*<br>o Write clearly and precisely while addressing the needs of the audience<br>o Prepare presentation with software (e.g., PowerPoint, Publisher, etc.)*<br>o Speak articulately and persuasively<br>o Exhibit effective time management |
| Specific Examples |
| Briefly describe any unique or particularly meaningful learning experiences during this research project related to the skills checked above.<br><br>Also, if you worked in a group, describe what you learned about the group process and your tendencies doing group work. |

*Aspects of computer literacy and technical skills