

Table 1 | Typical Research Tasks and Associated Skills

Posing research questions

- Identifying and defining personal interests or social issues
- Focusing a general topic onto a specific issue
- Recognizing and defining problems
- Demonstrating insight
- Conceptualizing ideas

Conducting a literature review

- Utilizing relevant resources
- Thoroughness
- Investigative abilities
- Internet and/or database proficiency
- Comprehending scientific and technical writing
- Integrating information
- Considering multiple perspectives
- Maintaining open-mindedness

Forming hypotheses

- Problem solving skills
- Willingness to explore alternatives
- Basing decisions on existing knowledge
- Openness to the possibility that beliefs can be proven incorrect

Developing methods and measures

- Problem solving skills
- Ethical decision making
- Defining concepts
- Designing methodology
- Innovation and creativity
- Strategic planning skills
- Constructing tests and questionnaires
- Demonstrating awareness of feasibility
- Accessing an appropriate population

Getting IRB approval

- Appreciation for ethical guidelines
- Adherence to federal and local rules
- Completing detailed paperwork accurately
- Appropriate handling of confidential and potentially sensitive information
- Meeting deadlines
- Preparing material for evaluation
- Communicating to a diverse audience
- Responding quickly to constructive feedback
- Addressing concerns in a satisfactory manner

Collecting data

- Professionalism
- Trustworthiness
- Handling sensitive information
- Maintaining confidentiality
- Following precise procedures
- Coordinating with data collection sites
- Organizing materials and arriving prepared
- Providing clear instructions
- Conducting interviews and/or distributing surveys
- Addressing participant questions and concerns
- Time management

Entering, analyzing and interpreting data

- Proficiency with technology
- Computational ability/quantitative skills
- Managing data files
- Attention to detail
- Critical thinking
- Interpreting trends/ seeing patterns
- Forecasting future behavior or activities
- Comparing new to existing knowledge

Applying knowledge

- Ability to see the big picture
- Understanding human behavior
- Innovation and creativity
- Global thinking skills
- Creating interventions
- Initiating policy change
- Designing or identifying appropriate resources
- Developing solutions to problems

Presenting at a conference or other professional venue

- Awareness of an audience (customers, clients)
- Demonstrating and sharing enthusiasm
- Building rapport
- Clarifying complicated information
- Facilitating discussion and participation
- Handling questions and disagreement
- Functioning within time constraints
- Communicating clearly and succinctly
- Persuading others
- Integrating ideas from multiple sources
- Portraying confidence and authority
- Graphic layout and design
- Organization
- Public relations skills
- Networking
- Public speaking
- Multimedia use
- Marketing talents

Writing an APA-style manuscript

- Following specific instructions
- Soliciting and responding to feedback
- Identifying appropriate outlets/journals
- Awareness of audience (customers, clients)
- Proper grammar usage
- Effective writing
- Scientific and technical writing
- Organization
- Attention to detail
- Marketing talents

Working with a faculty mentor

- Recognizing and utilizing expertise in an area
- Establishing rapport
- Following precise instructions
- Collaborating
- Negotiating
- Trainability
- Receptive to feedback
- Listening skills

Working with coresearchers

- Working with and getting along with others
- Interpersonal relationship skills
- Communicating about authorship or other difficult issues, and reaching resolution
- Negotiating and persuading
- Coordinating schedules
- Building rapport
- Appreciating diversity
- Willingness to share credit with others
- Listening skills
- Adaptability to changing situations
- Flexibility

Conducting subsequent research on the same, or a similar, topic

- Willingness to recognize weaknesses and work to overcome them
- Willingness to identify problems and work to resolve them
- Desire to increase level of responsibility
- Interest in applying new skills
- Versatility
- Diversity of education/knowledge
- Enterprising
- Initiative

Mentoring other students

- Creating team spirit
- Managing with vision and purpose
- Motivating others
- Building rapport
- Persuading and influencing others
- Setting timelines and establishing priorities
- Supervising colleagues
- Coordinating schedules
- Running a meeting
- Designing and leading training sessions
- Setting priorities
- Conducting appropriate follow-up
- Providing constructive criticism
- Teaching
- Leadership