



**KENNESAW STATE
UNIVERSITY**

NORMAN J. RADOW COLLEGE OF
HUMANITIES AND SOCIAL SCIENCE
Office of Academic Innovation

Faculty Toolkit

**for
STUDENT SUCCESS IN
UNDERGRADUATE
RESEARCH**



2024-2025

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Setting and Measuring Goals

HOW DO I SET GOALS FOR CONDUCTING RESEARCH WITH STUDENTS?

Questions to consider:

- What are the outcomes you hope to achieve by conducting research with students?
- How do your goals align with student goals and outcomes?
- How does my research project help students to attain their goals?
- Take the time to write down your own goals: why are you choosing to incorporate undergraduate research? What do you hope to achieve?
- For example, is it to provide a high-impact learning experience for students; to gather data to support my disciplinary research goals; to conduct a scholarship of teaching and learning (SoTL) study; etc.

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Set** course-related goals for moving forward and develop a plan to incorporate the project within the structure of the course. This will help demystify the research process and goals for students.
- **Embed** self-assessments for students to monitor their progress at various waypoints. This may involve students reflecting on their own work, setting goals, and identifying areas of strength and weakness. This approach encourages students to take an active role in their learning, develop metacognitive skills by understanding their own thinking processes, identify their own learning gaps, and develop skills that are valuable beyond the classroom, such as how to set goals, monitor progress, and adjust their performance.
- **Recognize** that students may be apprehensive about conducting research. Foster a growth mindset by communicating the idea that students can improve their abilities through practice. Incorporating a growth mindset approach with research considers practice as part of the learning process. This approach helps students become more persistent learners and understand that they can improve through effort.
- **Scaffold** activities that build a larger product at the end to help students understand the research process. There are several methods, such as breaking the literature review process into smaller components to help students master each step.
- **Communicate** with students regarding what they will gain from participating in research – make it specific and concrete and include how the knowledge and skills gained can help them in the future. The goal of this communication is transparency around the process so that students understand how each aspect of a project relates to the overall goals. This approach has been proven to lead to better student learning and persistence and benefits students of all backgrounds.

Setting and Measuring Goals

HOW DO I SET GOALS FOR CONDUCTING RESEARCH WITH STUDENTS?

RESOURCES:

- [Goal Setting worksheet](#)
- [Goal Setting assessment](#)
- [Student Goal Setting Worksheet PDF](#)
- [Setting SMARTR Goals worksheet](#)
- [Goal Setting Tools for Success Newsletter](#)
- [Self-Assess your Goal Setting Worksheet PDF](#)
- [Project Goals and Objectives template](#)
- [Student Resources](#) for goal setting in research
- [The SURE \(Specialized Undergraduate Research Experience\) Workbook](#) (note: link requires KSU library access)
- [Undergraduate Research](#) definition and taxonomy for KSU
- [Scaffolding Research Assignments Guide](#)



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Setting and Measuring Goals

HOW DO I IDENTIFY A RESEARCH PARADIGM AND CONCEPTUAL/THEORETICAL FRAMEWORK?

Questions to consider:

- What are your broad theoretical (“big T”) and specific research (“little r”) question(s) that you will answer to achieve these goals?
- What research paradigm (if any) is your work associated with?
- What theoretical paradigm (if any) is your work associated with?
- What type of research are you conducting (qualitative vs. quantitative vs. mixed methods)? What specific methodology have others used within those categories? If you are new to research or have taken an extended break from intensive research, you may want to revisit basic methodological protocols.



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Study** your own research project. If you are conducting a SoTL project to study your work with students, this is, in and of itself, a separate study. Even if your primary research does not include human subjects, this study includes its own teaching and learning aspects that are valuable research in and of themselves.
- **Plan** in semester levels, funneling down from the larger topic to a number of smaller questions that can build on each other – this can increase the efficiency of your time each semester. Ensure that you develop at least one overarching theoretical question that drives your research project – your “big T” – and develop one or more specific research questions (“little r”) that are associated with the bigger theoretical question.
- **Intersect** larger theoretical paradigms with students in an approachable way. Consider how you can translate this information to undergraduate students. Does the theory intersect with your course content? With a global, regional, or local issue?
- **Integrate** Project-Based Learning (PBL), which can help students connect theory to research as it requires designing, developing, and constructing hands-on solutions to a problem. PBL, depending on the student level, can range from a single hands-on experiment to longer simulations or research projects designed to help students develop a deeper understanding of a particular topic or subject.

Setting and Measuring Goals

HOW DO I IDENTIFY A RESEARCH PARADIGM AND CONCEPTUAL/THEORETICAL FRAMEWORK?

RESOURCES:



- [How to Choose your theoretical or conceptual framework overview](#)
- [Conceptual & theoretical frameworks Overview Library Guide](#)
- [Qualitative Vs Quantitative Research Methods & Data Analysis overview](#)
- [SoTL Research Basics](#) from Columbia University
- Video by University of Utah Professor on [Translating Your Research to a General Audience](#)
- [Examples of SoTL Research Questions](#) and other resources for SoTL

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Setting and Measuring Goals

WHO SHOULD BE PART OF MY RESEARCH TEAM?

Questions to consider:

- Based on the size of your project, do you need faculty collaborators? If you are conducting a small project related to only one course or narrow research topic, the work may be more suited as an individual project. If you are planning a multi-semester project with multiple components, it may be enhanced with a team of faculty involved.
- Do you need perspectives from other disciplines? What other disciplinary perspectives could provide valuable input on the topic?
- Do you need multiple forms of data to be collected? If you are considering multiple forms (i.e., survey and observational data; archival research and focus groups), forming a team of faculty can save you time and energy.
- If you partner with other faculty, take time at the outset and planning stage to discuss working styles, plans for student involvement, data ownership, and other relevant aspects collaboration.



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Cultivate** a growth mindset for yourself. Be ready to try new things and search out new approaches. This also means that when something does not go well, you view it as a chance to learn and grow.
- **Incorporate** ethical and civic considerations into your research where appropriate. Civic engagement fosters abstract and higher-order thinking for students as it requires multidisciplinary thinking to propose effective solutions to pressing social, environmental, educational, and economic issues.
- **Connect**, when possible, a service-learning aspect in your research to create connections between research/theory and local and or global issues. Service learning is recognized as a high-impact practice through which students learn theories and work in the community to put those theories into practice. At the end of this experience, students engage in reflection, which deepens their understanding of what has been taught. The goal is for this cycle of theory, practice, and reflection to broaden both knowledge and critical thinking skills.

Setting and Measuring Goals

WHO SHOULD BE PART OF MY RESEARCH TEAM?

RESOURCES:

- Teamwork Student Contract [Sample](#) and [Template](#)
- Collaborative Writing [Tools](#)
- Collaboration Tools [List](#)
- [IUPUI Assessment Institute 2020 Workshop](#) on forming interdisciplinary teams.
- Tips on [Making the Most of Student Research Teams](#)
- [AACU Value rubric](#) for teamwork
- University of Iowa [Group Work Self-Reflection & Evaluation](#)
- Carnegie Mellon [Group Work Resources](#)
- [Data Collection Methods](#) and a [Sample Data Collection Plan](#) for students
- Group Accountability Report [Sample](#)
- Groupwork Self-Evaluation [Student Form](#)
- Collaborative Learning [Activities](#)
- Growth Mindset Approach [Faculty Checklist](#)
- Growth Mindset [Diagnostic Quiz](#)
- Service-Learning [Toolkit](#)
- Service-Learning [Handbook](#)
- Service-Learning and Assessment [Guidebook](#)
- Service Learning Student Reflection [Handouts](#) and [Criteria](#)



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Setting and Measuring Goals

HOW DO I DEVELOP AN UNDERGRADUATE RESEARCH PROJECT THAT INCORPORATES HIGH IMPACT PRACTICES?

Questions to consider:

- What are the essential elements of High-Impact Practices?
- How does my research project align with these elements?
- Do you intend to collect data for a Scholarship of Teaching and Learning (SoTL) project as part of this undergraduate research experience?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Review** the eight essential elements of HIPs. Consider to what degree your project aligns with them. When possible, make small changes to increase the impact of your project.
- **Consider** other data that may be needed from students to measure the impact of the experience. For assessment of how “high impact” your experience is, consider using an established taxonomy to assess the impact of your undergraduate research experience as a HIP (KSU’s and several others linked in the resources).
- **Provide** feedback related to their experience in the project, both related to the elements of HIPs and to the comparison between the research experience and a typical classroom one. Collecting student feedback is an important part of any continuous improvement practice.
- **Ensure** that if you plan to publish student data, be sure to seek out IRB approval prior to the start of your project.



Setting and Measuring Goals

HOW DO I DEVELOP AN UNDERGRADUATE RESEARCH PROJECT THAT INCORPORATES HIGH IMPACT PRACTICES?

RESOURCES:

- [Guide](#) to HIPs eight elements
- [List](#) of eight HIPs elements
- Council on Undergraduate Research [Mentor Resources](#)
- Jillian Kinzie's [HIP Quality Project](#)
- University of Oregon [Assessment of Undergraduate Research Resources](#)
- Taxonomies available online that identify the impact of HIPs using the eight elements:
 - Tennessee Board of Regents: [High Impact Practices](#)
 - Indiana University: [High Impact Experiences](#)
 - Weber State University: [HIEE Taxonomy](#)
 - University of North Dakota: [High Impact Practices](#)
 - Pikes Peak State College: [HIPs](#)
 - Kennesaw State University: [Engagement](#)
 - AAC&U [High Impact Practices](#)



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Preparing and Planning for Research

WHAT ARE THE MAJOR PLANNING TASKS I NEED TO COMPLETE PRIOR TO CONDUCTING RESEARCH WITH STUDENTS?

Questions to consider:

- Will you embed a research project within a course or recruit students to participate outside of class?
- If you plan on a Course-based Undergraduate Research Experience (CURE), what courses are you teaching now or will be in the future that are appropriate for undergraduate research?
- If you plan on a stand-alone project, how will you recruit and retain students?
- How can you scaffold assignments throughout the experience to build toward a final product?



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Employ** backward design for research planning, starting with the end goals and working backward to develop the necessary steps. First, clearly define your research goals and desired outcomes. Next, determine the evidence and methods needed to measure success. Finally, plan the activities and resources required to gather data and achieve your goals. This approach ensures clarity, intentionality, and flexibility, aligning every step of your research with your ultimate objectives.
- **Plan** your syllabus and course curriculum ahead of time, and if possible, include extra time to account for unexpected obstacles along the way, especially if this is your first time facilitating undergraduate research. Create a course map to demonstrate the alignment between the learning outcomes, course materials, and assessments. Additionally, by charting out the entire course, you can identify potential gaps, redundancies, or misalignments. When feedback or challenges require revisions, a course map can help identify areas for interventions and additional support.
- **Ensure** that students receive adequate feedback throughout the process (not just at the end) so that they can correct mistakes and keep the project on track. Include low-stakes opportunities to practice skills early in the project to identify problems and correct them. Developing these formative assessments can serve as a powerful diagnostic tool to monitor progress, identify areas of improvement, and guide research planning.
- **Scaffold** complex concepts to foster student understanding. Scaffolding is a way of structuring assignments to support your learning objectives. There are several methods, such as breaking the literature review process into smaller components to help students master each step.

Preparing and Planning for Research

WHAT ARE THE MAJOR PLANNING TASKS I NEED TO COMPLETE PRIOR TO CONDUCTING RESEARCH WITH STUDENTS?

RESOURCES:



- [Low-Stakes Assignments Examples](#)
- [IUPUI Backward Design](#) for courses
- [Dee Fink's course design: A Self-Directed Guide to Designing Courses for Significant Learning](#)
- [Learn more about CUREs](#)
- [Designing a CURE](#)
- [Concrete Strategies for Frequent, Low-Stakes Assessments/Practice](#) from Carnegie Mellon
- [Effective Assignment Sequencing for Scaffolding Learning Strategies Scaffold and Assignment Design Overview](#)
- [Scaffolding Research Assignments Guide Scaffolding and Sequencing Writing Assignments Scaffolding Instruction Toolkit](#)
- [Scaffolding Learning in the Online Classroom Overview](#)
- [Instructional Scaffolding DLI Resource for Faculty](#)
- [Course Map Template](#)
- [Three Course Map Templates](#)

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Preparing and Planning for Research

HOW CAN I IDENTIFY AND REMOVE OBSTACLES FOR MY STUDENTS TO PARTICIPATE IN RESEARCH?

Questions to consider:

- What are the major barriers that inhibit students from participating in research?
- How can I provide more equitable access to research opportunities for students?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Allow** multiple ways to complete tasks, and/or division of labor across a student team to ensure that all can participate in a way that fits their unique circumstances. Remember that students may have other responsibilities that will inhibit their ability to engage in research activities outside of class time. If you plan to require students to collect data or complete other tasks at a different time, plan for how you will deal with these barriers.
- **Design** research projects with a Universal Design for Learning (UDL) framework, which is an approach that accommodates the needs and abilities of all learners. The UDL framework invites faculty to provide a variety of methods for students to interact with the content in different ways.
- **Expand** where you find students to engage in research. Some recommendations include:
 - Announce research opportunities during lectures or seminars
 - Post opportunities on KSU Handshake
 - Send targeted emails to students who have shown interest in the field
 - Consider minimal requirements careful - less experience will ensure a broader pool
 - Consider using work study students if possible
 - Make any application easy to complete and understand
 - Emphasize enthusiasm over experience



Preparing and Planning for Research

HOW CAN I IDENTIFY AND REMOVE OBSTACLES FOR MY STUDENTS TO PARTICIPATE IN RESEARCH?

RESOURCES:

- [Reflective Instrument for Faculty: A Framework for Inclusive Pedagogy](#)
- [Universal Design for Learning \(UDL\) Guidelines](#)
- [Universal Design for Learning \(UDL\) Primer](#)
- [Best Practices in Universal Design for Learning \(UDL\) Toolkit](#)
- [Student Engagement Survey in Word](#)
- [Student Engagement DLI Resource for Faculty](#)
- [Scaffolding Research Assignments Guide](#)
- [Career Fair Reflection Assignment](#)
- [Career-Related Classroom Assignment Examples](#)
- [Resume Writing Assignment and Rubric](#)
- [NACE Career Readiness Competencies](#)
- [Research Ethics Resources](#)
- [AAC&U High Impact Practices](#)

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Preparing and Planning for Research

HOW CAN RESEARCH EXPAND MY STUDENTS' BREADTH OF KNOWLEDGE AND SUPPORT THEIR LEARNING?

Questions to consider:

- How can research help my students acquire critical and creative thinking skills?
- Will engaging in undergraduate research enhance what my students learn in my course(s)?
- How can research projects be designed to integrate interdisciplinary knowledge?
- What specific research skills can students develop that will be applicable across various fields of study?

RECOMMENDATIONS FOR IMPLEMENTATION:

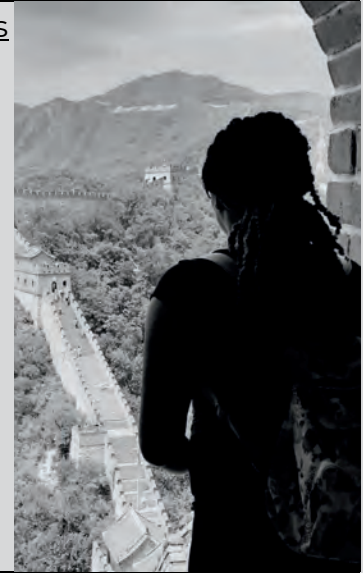
- **Communicate** how well-designed undergraduate research can result in greater critical thinking skills, independent thought, and creativity. To develop these skills, students need some autonomy during the research process. Learning theory, practice, and reflection will enhance both knowledge and critical thinking skills. This approach has been shown to significantly improve students' learning outcomes and positively contribute to academic achievement and thinking skills.
- **Encourage** creative thinking as a first step to generating solutions. Consider leaving extra time at the beginning stages of the project to allow students to brainstorm and think creatively about the problem. Creative-thinking activities can foster judgment-free thinking, which can be an obstacle for some students' engagement. For example, some students dominate brainstorming and class discussions, while others fear judgment for their ideas. Creative thinking, such as asking students to imagine the worst possible solution to an issue, can validate all approaches and ideas. Be flexible (when possible) so that if students have an idea that will generate valuable information but is outside your original plan, you can pivot.
- **Connect** for students how undergraduate research can enhance learning gains within a course, but only if the content and the research topic are linked. You may need to do this very explicitly at first. Then, you can move on to class discussions and/or group work that requires students to bridge the research they are conducting and the textbook/lecture content.
- **Utilize** reflective thinking. Ask students to reflect on their experience and adapt their future learning, which can help students plan for or reflect on how they can improve their performance. Such assessments promote self-directed learning and require students to reflect their role in their own learning. The goal is for this cycle of theory, practice, and reflection to broaden student knowledge and critical thinking skills.

Preparing and Planning for Research

HOW CAN RESEARCH EXPAND MY STUDENTS' BREADTH OF KNOWLEDGE AND SUPPORT THEIR LEARNING?

RESOURCES:

- Grinnell College [Pre and Post Test Assessments for CUREs](#)
- Ideas for [Assessment and Evaluation of Student Learning in Research](#)
- The [Benefits of Engaging in Research](#) for students.
- MIT's guide to [Help Students Retain, Organize and Integrate Knowledge](#)
- Ideas for [Connecting Course Content to Research Experiences](#)
- Creative Problem Solving [Test](#)
- Creative Thinking VALUE [Rubric](#)
- Student Summative Reflective Question [Examples](#)
- Student Reflection [Handouts and Criteria](#)
- Student Self-Assessment [Template](#)
- Student Survey Questions [Repository](#)
- Student Academic Self-Assessment [Template](#)



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Student Research in the Classroom

WHAT TYPES OF INTRODUCTORY RESEARCH EXPERIENCES CAN BE EMBEDDED IN THE CLASSROOM?



Questions to consider:

- What research options, besides a course embedded undergraduate research (CURE), are appropriate for including in the classroom?
- What are the most important research skills for students to develop?
- How do I develop students' data literacy skills?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Embed** introductory research experiences in the classroom to enhance students' critical thinking skills and data interpretation abilities. Students increasingly attend college with more credits but do not always receive training or education in these topics and often cannot apply critical thinking skills to data interpretation as they might for standardized tests.
- **Incorporate** data literacy competencies into your classes to ensure students receive training and education in these areas. Be explicit in your communication with students about these competencies. Assign projects that require students to collect, analyze, and interpret data relevant to the course material. This can help students apply theoretical knowledge to real-world scenarios. Introduce tools like Excel, Tableau, or R for students to visualize data when possible. Use case studies that involve data-driven decision-making or design assignments that require students to use data to support their arguments or hypotheses.
- **Evaluate** your curriculum to determine if research methods are being introduced at appropriate levels and consider the value of introducing them earlier. Plan and prepare for Course-Based Undergraduate Research Experiences (CUREs) in advance to achieve the best outcomes for both you and your students.
- **Focus** introductory research experiences on traditional research presentation aspects, such as writing an abstract, conducting a literature review, identifying research gaps, designing a research study, and creating an annotated bibliography. A good introduction can focus on aspects of traditional research presentations or publications.

Student Research in the Classroom

WHAT TYPES OF INTRODUCTORY RESEARCH EXPERIENCES CAN BE EMBEDDED IN THE CLASSROOM?

RESOURCES:

- [Scholarship and Practice of Undergraduate Research](#) journal
- [Designing a CURE](#) for your classroom
- Undergraduate Research Experience: [A Roadmap to Guide Your Journey](#)
- Having students [Conduct a Literature Review](#) a step-by-step process.
- [Video](#) on research gaps
- Design a study assignment: [Psychology Example](#); [Political Science Example](#); [General Example](#); or watch this [Video](#) on how to create a research design assignment
- Research skill developing [Assignment Ideas](#)
- Designing assignments to [Develop Information Literacy Skills](#)



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Student Research in the Classroom

WHAT TYPES OF ADVANCED RESEARCH EXPERIENCES CAN BE EMBEDDED IN THE CLASSROOM?

Questions to consider:

- What are best practices for course-embedded undergraduate research (CURE)?
- What are the most important advanced research skills for students to develop?
- What types of advanced research experiences can be embedded in the classroom to enhance students' learning?



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Identify** the types of research skills most appropriate for your project and scope, such as data collection, coding, and/or analysis (qualitative or quantitative), research design, literature review, synthesis of findings, and research writing. Evaluate the specific needs of your course and determine which skills will most benefit your students' learning and future research endeavors. Make sure you also assess the preparation level of students to ensure that the chosen activities match their skill level. For first-year students, consider assignments like literature reviews, while upper-level students may engage in full research projects from start to finish.
- **Design** research projects that align with your course objectives and learning outcomes. Create clear guidelines and expectations for these projects, and ensure they are relevant to the course content. Integrate these projects into the course schedule, allowing sufficient time for students to complete each phase of the research process.
- **Facilitate** the synthesis of findings from research activities. Encourage students to draw connections between their research and existing literature. Help them develop skills in analyzing and interpreting data and guide them in presenting their findings in a coherent and logical manner.
- **Mentor** students in research writing, ensuring they contribute to various parts of the research process. Provide individualized support and feedback on their writing. Teach students how to structure their research papers, develop strong arguments, and use proper citation practices. Encourage collaboration and peer review to enhance their writing skills.
- **Plan** in advance for Course-based Undergraduate Research Experiences (CUREs) to achieve the best outcomes for you and your students. Develop a detailed plan that outlines the goals, timeline, and resources needed for the CURE. Select research topics that are relevant to the course content and that will engage students as well as help students achieve the learning outcomes of the course.

Student Research in the Classroom

WHAT TYPES OF ADVANCED RESEARCH EXPERIENCES CAN BE EMBEDDED IN THE CLASSROOM?

RESOURCES:

- [KSU Library Research Guides](#) on writing a literature review and conducting searches for scholarly articles. These can be embedded into a D2L shell.
- [Designing a CURE](#) for the classroom
- Purdue OWL [Writing a Literature Review Resources](#)
- KSU Writing Center [Writing a Literature Review Resources for Instructors](#)
- [Data Collection Methods](#) and a [Sample Data Collection Plan](#) for students
- [Sample Size Calculator](#) (determines the number of individuals needed for statistical power in your analysis)
- [A Table](#) to assist in choosing the Correct Statistical Test in SAS, STATA, SPSS, and R
- Examples of [Qualitative Group](#) and [Individual Interview Questions](#)
- Kennesaw State University [IRB Website](#)
- Model IRB [Activity](#)

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Implementing Research with Students

HOW DO I ENGAGE IN DATA COLLECTION WITH STUDENTS?

Questions to consider:

- What types of data can (and should) students collect?
- Is there any baseline knowledge or skills that students need to successfully collect this data? If so, how will you teach them those things?
- Do you need students to be IRB certified?
- How do you ensure students understand the importance of confidentiality, informed consent, and data security?



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Ensure** whether students need IRB certification. You may want to require it regardless of whether it is necessary for the data you plan to collect, as they will learn valuable information about research and can put this certification on a resume or CV. Kennesaw State University requires prior review and approval to be obtained from the IRB for all research involving human participants, including:
 - Student research involving human subjects cannot be conducted without supervision by a Faculty Advisor as well as IRB oversight.
 - Employing the administration of any substance or stimulus
 - Utilizing an interview, survey, focus group or observation to collect data.
 - That are Elected or Public Officials
 - From the study of de-identified existing data, documents, records, pathological specimens, or diagnostic specimens.
 - Involved in public benefit or service programs.
 - Involved in taste tests and food quality evaluation.
- **Assess** student backgrounds, including major, age/class level, research experience, and motivation, to set realistic expectations for their capabilities. Use this assessment to determine the type of data to collect.
- **Connect** data collection activities to students' coursework or major to ensure relevance and buy-in, making sure they see the value beyond just supporting your personal research agenda. Place safeguards to protect data integrity.

Implementing Research with Students

HOW DO I ENGAGE IN DATA COLLECTION WITH STUDENTS?

RESOURCES:

- [How to use Google Forms](#) to create online surveys
- [How to use Microsoft Forms](#)
- Purdue OWL [Writing a Literature Review Resources](#)
- Collaborative Institutional Training Initiative (CITI) [Online Training and Instructions](#) (online training program that is the official certification program for KSU-affiliated personnel with courses that include biomedical research, social and behavioral research, student research, various animal research courses, responsible conduct in research, conflict of interest, IRB or IACUC or IBC member training, as well as biosafety/biosecurity and export controls)
- Guide [for Qualtrics use through KSU](#)
- KSU's [Data Security Protocols](#) and [Use of Student Data Protocols](#)
- UNC Charlotte's student [Data Collection Methods](#)
- Links to a [Data Collection Tools](#)
- Kennesaw State University IRB [Website](#)
- Model IRB [Activity](#)

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Implementing Research with Students

WHAT NEEDS IRB APPROVAL AND HOW CAN I GET IT?

Questions to consider:

- Do you need students to be IRB certified?
- How can students get certified?
- What types of student research projects require IRB approval?
- What ethical considerations should be taken into account when conducting research with human subjects?



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Ensure** whether students need IRB certification. You may want to require it regardless of whether it is necessary for the data you plan to collect, as they will learn valuable information about research and can put this certification on a resume or CV. Remember: Kennesaw State University requires prior review and approval to be obtained from the IRB for all research involving human participants, including plans to gather data from participants:
 - For all graduate and undergraduate student projects conducted outside the classroom, including master's theses and dissertations. Student research involving human subjects cannot be conducted without supervision by a Faculty Advisor as well as IRB oversight.
 - Employing the administration of any substance or stimulus
 - Utilizing an interview, survey, focus group or observation to collect data
 - That are Elected or Public Officials
 - From the study of de-identified existing data, documents, records, pathological specimens, or diagnostic specimens
 - Involved in public benefit or service programs
 - Involved in taste tests and food quality evaluation.
- **Consider** submitting an IRB to study the student experience so that you can write a Scholarship of Teaching and Learning (SoTL) article on undergraduate research. This must be a separate IRB application to collect data from the participating students as the "subjects" of research.
- **Educate** students about ethical principles and the importance of protecting human subjects in research. Review research proposals to ensure they meet ethical standards and comply with institutional guidelines. Be sure to monitor ongoing research projects to ensure ethical practices are maintained throughout the study and enforce compliance with ethical guidelines and institutional review board (IRB) requirements.

Implementing Research with Students

WHAT NEEDS IRB APPROVAL AND HOW CAN I GET IT?

RESOURCES:

- Collaborative Institutional Training Initiative (CITI) [Online Training and Instructions](#). This online training program is the official certification program for KSU-affiliated personnel.
- KSU IRB [Homepage](#)
- [Training for IRB certification](#) KSU homepage
- KSU [FAQ](#) about IRB and FERPA
- KSU's [Project Compliance Checklist for New Researchers](#)
- Does my project need IRB approval? [A Walkthrough Document](#).
- The [Federal Regulatory Definition of Research](#)
- [Student Researchers Tips](#) related to IRB approval.
- [IRB Guidance for Student Research](#) at KSU
- Model IRB [Activity](#)
- Teaching Ethics [Table of Exercises](#)
- Teaching Ethics with Short Stories [Toolkit](#)
- Research Ethics [Resources](#)
- Ethical [Case Studies and Scenarios](#)



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Implementing Research with Students

WHAT ARE THE ETHICAL CONSIDERATIONS OF STUDENT-CENTERED RESEARCH?

Questions to consider:

- How can you ensure that students are conducting research ethically?
- How can you ensure that you are utilizing student labor for research ethically?
- What measures can be taken to provide adequate training and support for student researchers?
- What steps can be taken to protect the well-being and safety of student researchers, especially when conducting fieldwork or sensitive studies?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Provide** comprehensive training on research ethics, including informed consent and confidentiality. Regular check-ins and reviews of students' research practices can help ensure adherence to ethical standards.
- **Define** students' roles and responsibilities, ensuring that tasks are appropriate for their skill levels and academic goals. It is important to recognize and credit students' contributions in publications and presentations. Consider relevant aspects of the work students will be doing: Are there special considerations around the research subjects? Will students be in possession of data that could be considered sensitive?
- **Offer** mentorship programs and access to resources such as research guides and ethical guidelines. Providing ongoing feedback and creating a supportive research environment are also crucial.
- **Conduct** risk assessments and provide safety training tailored to the specific research context. Establish clear protocols for emergency situations and ensure students have access to support services to protect their well-being.
- **Support** opportunities for student-led dissemination of results (even if only partial) to emphasize the value of their participation.
- **Communicate** to students the importance of the work you are completing together. Explain how the skills they will gain will be useful for them and how to communicate these skills to potential employers.



Implementing Research with Students

WHAT ARE THE ETHICAL CONSIDERATIONS OF STUDENT-CENTERED RESEARCH?

RESOURCES:

- [Council on Undergraduate Research \(CUR\) Code of Ethics](#) for institutions and individuals
- [KSU's Ethics in Undergraduate Research](#)
- [Defining the Role of Authors and Contributors](#) in research
- Research Responsibilities [Checklist](#)
- Authorship determination [Worksheet and Scorecard](#)
- Sample [Authorship Agreement with Publication Intent](#)
- How to [Recognize Potential Authorship Problems](#) infographic
- Research Dissemination [Rubric](#)
- Research [Dissemination Toolkit](#)
- The University's Role in the [Dissemination of Research and Scholarship](#)
- Research Ethics [Resources](#)
- Ethical [Case Studies and Scenarios](#)
- Ethical Issues in Journalism [Cases](#)
- Teaching Ethics [Table of Exercises](#)

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Considerations for After Research is Conducted

WHAT ROLE SHOULD ASSESSMENT PLAY IN UNDERGRADUATE RESEARCH ACTIVITIES?

Questions to consider:

- How can you assess your students' learning gains?
- What types of assessment are appropriate?
- How can you incorporate reflection in your assessment(s)?
- How can you provide constructive feedback that guides students in improving their research methods?
- How can we recognize and reward students' efforts and achievements?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Determine** how and if you are going to measure students' understanding. There are three types of assessment: (1) assessment of the course experience, (2) assessment of the learning gains, and (3) assessment of the impact of the HIP.
 1. Assessments of the course experience tend to ask subjective questions of students about their overall experience and personal development. These are especially important if you plan to produce a SoTL scholarship.
 2. Assessments of the learning gains typically measure how well students met course learning outcomes.
 3. Assessments of the impact of the HIP: Consider using an established taxonomy to assess the impact of your undergraduate research experience as a HIP (KSU's linked below, others linked elsewhere in this toolkit).

You do not necessarily need to assess all three but should decide at the outset what you are going to assess and create your assessment plan with that in mind.
- **Encourage** students to reflect on their learning experiences through journals and self-assessments. This can be done by facilitating reflective discussions and group debriefs, tracking students' progress over time with regular check-ins and progress reports, and using tools like surveys or reflection prompts. Reflecting on the experience enhances positive outcomes and will also provide you with rich feedback. Ensure that you review your assessment types to determine their effectiveness.
- **Provide** timely and specific feedback on students' research methods and findings. Highlight areas of improvement and suggest actionable steps. Support students with resources and examples to help them improve.
- **Acknowledge** students' contributions in publications and presentations; celebrate their achievements with awards, certificates, and public recognition. Ensure that you document students' accomplishments in recommendation letters and portfolios.

Considerations for After Research is Conducted

WHAT ROLE SHOULD ASSESSMENT PLAY IN UNDERGRADUATE RESEARCH ACTIVITIES?

RESOURCES:

- [Evaluation Tools](#) for Undergraduate Research Self-Assessment
- DEAL Critical Reflection [Assignment Sample](#)
- CUR Assessment [Toolkit](#)
- Undergraduate Research Rubric [Template](#)
- Student Assessment of their Learning Gains [Example Questions](#)
- Sample Questions for [Assessment in a Group Discussion](#)
- Self-Assess your Goal Setting Worksheet [PDF](#)
- Student Self-Assessment [Template](#)
- Student Academic Self-Assessment [Template](#)
- Council on Undergraduate Research [Assessment Toolkit](#)
- Oral Presentation [Help for Students](#)
- Innovative Authentic Assessments [Overview](#)
- Authentic Assessment [Rubric and Overview](#)
- Scaffolding Research Assignments [Guide](#)
- Free Research Poster PowerPoint [Templates](#)
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Considerations for after Research is Conducted

HOW DO I INVOLVE STUDENTS IN THE DEVELOPMENT OF RESEARCH PRODUCT(S)?

Questions to consider:

- How can students assist in interpreting research data?
- How do I ensure the integrity of data during research and writing?
- Should I require formal dissemination of research results?

RECOMMENDATIONS FOR IMPLEMENTATION:

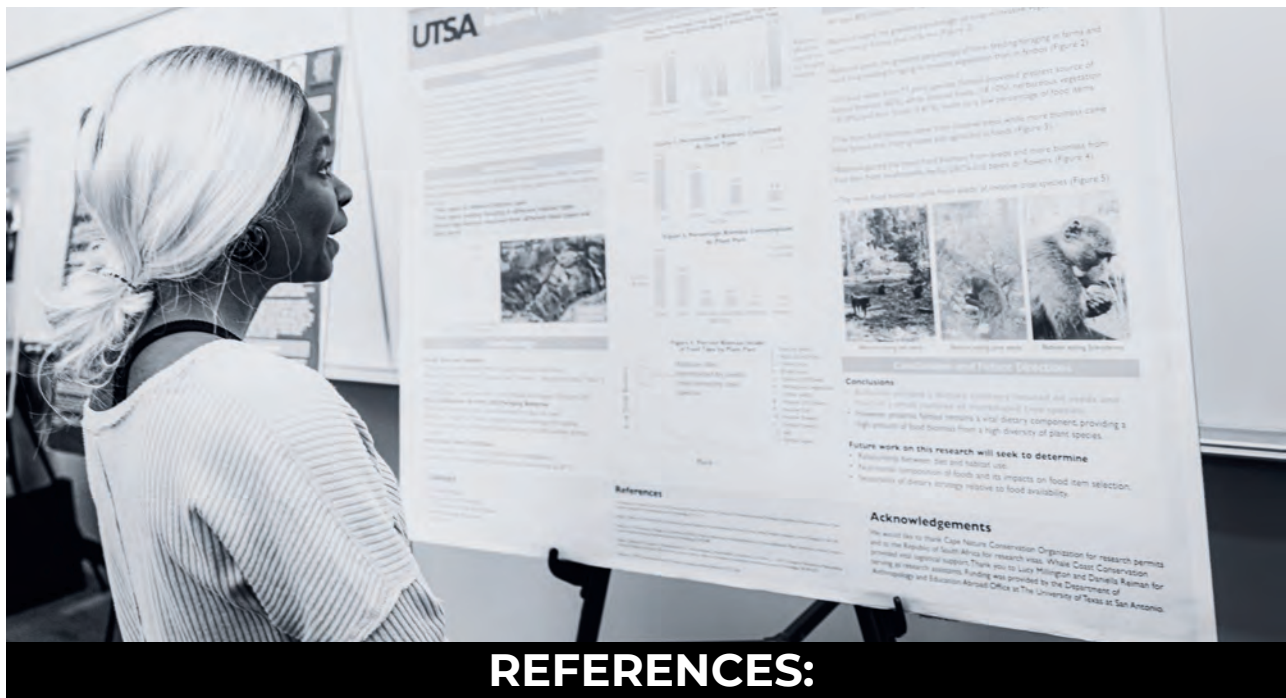
- **Develop** a training plan for teaching students appropriate data analysis and synthesis techniques. They will benefit from conducting analysis. Use class or project time to walk through how you would approach data analysis and synthesis. Hands-on practice sessions where students can work with sample datasets will help them apply theoretical knowledge to real-world scenarios. If possible, encourage students to work in pairs or small groups to analyze data.
- **Develop** a data management plan that outlines how data will be stored, shared, and protected. This ensures that master copies are always available and that data integrity is maintained. Make master copies of any data before sharing it with students.
- **Model** data analysis and synthesis if possible. Use examples of prior work (yours or others) to show the evolution of writing and analysis. Present case studies of previous research projects, highlighting the evolution of data analysis and writing. Discuss what worked well and what could be improved.
- **Distributing** research is a good practice as it helps students develop essential skills such as writing, presenting, and critical thinking. These skills are valuable in both academic and professional settings. It also increases the visibility and impact of the research. Participating in formal dissemination activities can enhance students' resumes and academic profiles. It provides them with tangible evidence of their research capabilities and achievements. Receiving feedback from peers and experts through formal dissemination channels can help improve the quality of the research. However, formal dissemination, such as writing papers or preparing presentations, can be time-consuming for both students and faculty members, can cause pressure and stress for students, and is limited by resources and opportunities.

Considerations for after Research is Conducted

HOW DO I INVOLVE STUDENTS IN THE DEVELOPMENT OF RESEARCH PRODUCT(S)?

RESOURCES:

- Carnegie Mellon [Tips for Helping Students Become Scholarly Writers](#)
- CUR Guide to [Translating Research Skills](#)
- Scaffolding Research Assignments [Guide](#)
- Council on Undergraduate Research Assessment [Toolkit](#) Free Research Poster PowerPoint [Templates](#)
- [Poster Presentations Tips](#)
- Oral Presentation [Help](#) for Students [Journal Article Reading](#) PDF [Template](#)
- Research Ethics [Resources](#)



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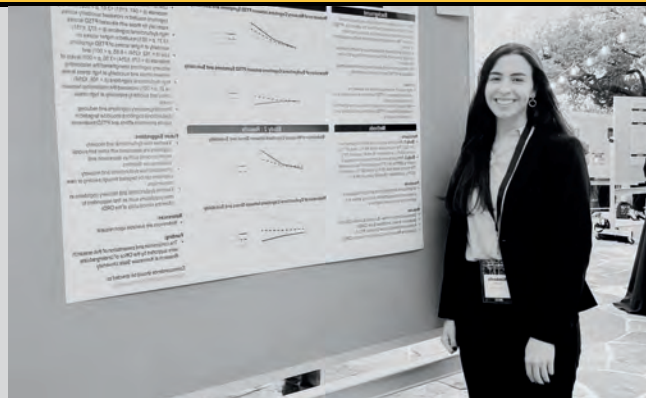
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Considerations for After Research is Conducted

HOW DO I DETERMINE STUDENT PUBLICATION ROLES AND RESPONSIBILITIES?

Questions to consider:

- When can (or should) you invite students to be co-authors or co-presenters?
- How can you communicate with students about these opportunities?
- How do I determine the roles of each co-author?
- Where do we disseminate student research?



RECOMMENDATIONS FOR IMPLEMENTATION:

- **Communicate** clearly to students about opportunities for authorship. If authorship is not an option, inform them early and discuss other benefits they will gain from participating in the research project.
 - Consider carefully who to invite as an author, taking into account the class size and scope of the project.
 - If your class size is large, you may be less likely to ask students to be involved in writing a paper within one semester/project. If select students want to continue, identify those who engage in work above and beyond the project for credit.
 - If the project is large in scope or lasts a long time, evaluate whether student authorship is appropriate, as they may graduate and move on before manuscripts are written.
 - If you invite students to be part of the publication process, explain clearly what this entails and request a commitment in writing about the “terms.” Develop a clear and specific timeline for contributions from all authors (including yourself) and outline consequences if someone does not meet that timeline. This protects everyone on the authorship team. If students will be co-authors on publications, prepare to engage in mentoring throughout the writing process.
- **Support** students in disseminating research alongside a faculty member:
 - Students can present their research findings at academic conferences, symposiums, or workshops. This provides a platform to share their work with a broader academic audience and receive feedback.
 - Create and display research posters at university events or conferences. Poster sessions are a great way for students to visually communicate their research and engage in discussions with attendees.
 - Submit research papers to academic journals for publication. Faculty members can guide students through the submission process and help with revisions.
 - Engage with the community by presenting research findings at local events, schools, or community centers. This can help in making research accessible to a non-academic audience.

Considerations for After Research is Conducted

HOW DO I DETERMINE STUDENT PUBLICATION ROLES AND RESPONSIBILITIES?

RESOURCES:

- Virginia Tech [Resources for Collaborative Team Agreements](#)
- Preempting Discord: [Prenuptial Agreements for Scientists](#)
- [Best Practices](#) for Collaborative Research
- Authorship determination [worksheet and scorecard](#)
- [Sample authorship agreement](#) with publication intent
- How to recognize [potential authorship problems](#) infographic
- Research Responsibilities [checklist](#)
- [Posters at the Georgia State Capitol](#) on undergraduate research [sponsored by KSU](#)
- [Creating Effective Poster Presentations](#)
- [Tips on Poster Presentations](#) at Professional Conference
- Oral Presentation [Help](#)
- Free Research Poster PowerPoint [Templates](#)
- [KSU Symposium of Student Scholars](#) showcase if student scholarship.
- [Kennesaw Journal of Undergraduate Research](#)
- [National Council on Undergraduate Research](#) conference information

A brief list of professional conferences that accept presentations by undergraduates:

- National Collegiate Honors Council Annual [Conference](#)
- [Undergraduate Conference](#) on Research and Creative Practice
- [Popular/American Culture Association](#) in the South
- American Anthropological Association [Annual Conference](#)
- [Conference](#) for Undergraduate Research in Communication
- Undergraduate Communication [Research Conference](#)
- National Undergraduate [Literature Conference](#)
- [South Atlantic Modern Language Association](#)
- Contemporary [Issues and Ethics Conference](#)
- Phi Alpha Theta [History Honor Society Conference](#)
- Midwest Political Science Association [Conference](#)
- Georgia Undergraduate [Research in Psychology Conference](#)
- Psychology [Undergraduate Research Conference](#)
- [Southeastern Psychological Association Conference](#)
- PASSHE Women's Consortium [Annual Conference](#)
- National Women's Study Association [Conference](#)
- Southwestern Social Science Association [Conference](#)

A brief list of undergraduate research journals:

- [Undergraduate History Journal](#) at Illinois
- American Journal of [Undergraduate Research](#)
- CUREJ: College [Undergraduate Research Electronic Journal](#)
- Hopkins [Undergraduate Research Journal](#)
- Journal of Undergraduate [International Studies](#)
- Journal of [Undergraduate Research](#)
- JUR Press - [Journal of Student Research](#)
- PURSUE: Undergraduate [Research Journal](#)
- Reinvention: A Journal of [Undergraduate Research](#)
- Illumination: The Undergraduate [Journal of Humanities](#)

Considerations for After Research is Conducted

HOW DO I DETERMINE STUDENT PUBLICATION ROLES AND RESPONSIBILITIES?

RESOURCES, CONTINUED

- Inquiries Journal, [Social Sciences, Arts, and Humanities](#)
- Elon Journal of Undergraduate [Research in Communications](#)
- Learning & Teaching: The International Journal of Higher Education [in the Social Sciences](#)
- [Clio's Scroll: The Berkley Undergraduate History Journal](#)
- Columbia [Undergraduate Research Journal](#)
- History Matters: An [Undergraduate Journal of Historical Research](#) at Appalachian State
- Inquiries Journal: [Social Sciences, Arts, and Humanities](#)
- Collision [Literary Magazine](#)
- Queen City Writers: A [Journal of Undergraduate Writing & Composing](#)
- Falsafa: [Undergraduate Journal of Philosophy](#)
- Logos: The Undergraduate [Journal of Philosophy](#)
- American Undergraduate [Journal of Politics and Government](#)
- Chicago [Journal of Foreign Policy](#)
- Columbia University [Journal of Politics and Society](#)
- [Critical Theory and Social Justice Journal](#) of Undergraduate Research
- Critique: A Worldwide Student [Journal of Politics](#)
- UCLA [Undergraduate Psychology Journal](#)
- University of North Carolina [Undergraduate Journal of Psychology](#)
- Undergraduate [Journal of Service Learning and Community-Based Research](#)
- Consilience: The [Journal of Sustainable Development](#)
- Xchanges: An [Interdisciplinary Journal of Technical Communication, Rhetoric, and Writing Across the Curriculum](#)

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Career and Work Readiness

HOW CAN I HELP MY STUDENTS USE RESEARCH SKILLS TO PREPARE FOR THEIR DESIRED CAREER PATHWAY?

Questions to consider:

- How can you communicate the transferability of knowledge and skills students will gain from participating in research as an undergraduate?
- How can you help students to communicate this knowledge and skillsets to potential employers?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Communicate** to students the transferable skills they will gain from participating in research early and often. Include detailed information about what students will do and explain the purpose behind these activities. This helps students understand the value of their work and how it applies to their future careers.
- **Identify** all the skills that undergraduate research might develop, including but not limited to data literacy, ethical reasoning, problem-solving, critical thinking, written and/or oral communication skills, creativity, and teamwork. Highlight these skills in your course materials and discussions to ensure students recognize their importance.
- **Dedicate** time to assist students with incorporating research skills into their resumes or CVs. Facilitate brainstorming sessions on how they can articulate what they have learned in interviews. This can include mock interviews, peer reviews of resumes, and workshops on effective communication of research experiences.
- **Collaborate** with Career Services and invite someone to speak to your class or research students about how to translate research skills to other industries. This can provide students with a broader perspective on how their research experience can be valuable in various career paths and help them see the practical applications of their skills.
- **Design** your undergraduate research experience as a High-Impact Practice (HIP). HIPs are educational practices that have been shown to benefit college students from many backgrounds. This includes providing opportunities for deep learning, fostering engagement, and promoting student success. Ensure your research projects are structured to maximize these benefits, such as through collaborative assignments, intensive writing, and real-world problem-solving.

Career and Work Readiness

HOW CAN I HELP MY STUDENTS USE RESEARCH SKILLS TO PREPARE FOR THEIR DESIRED CAREER PATHWAY?

RESOURCES:

- [PowerPoint Presentation](#) on translating research skills to industry
- [CUR Guide](#) to Translating Research Skills
- University of Utah video on [Translating Your Research into a Resume](#)
- [Learning Outcomes](#) (second page) for research
- [Attributes Employers Seek](#) on a Resume.
- [Transparency in Learning and Teaching](#) (TILT) approaches can assist in communicating skills in assignments and syllabi
- Research assignment [Rubric](#)
- Designing assignments to [Develop Information Literacy Skills](#)
- [Tips for Adding Research](#) to your Resume



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Career and Work Readiness

HOW DO I COMMUNICATE THE BENEFITS OF UNDERGRADUATE RESEARCH TO STAKEHOLDERS?

Questions to consider:

- How is participating in undergraduate research different from other learning experiences?
- How can undergraduate research foster independence?
- How can participating in research projects improve my students' communication skills?

RECOMMENDATIONS FOR IMPLEMENTATION:

- **Communicate** widely about how participating in undergraduate research is linked with positive outcomes such as increased disciplinary knowledge, greater self-efficacy, confidence, and independence. Engaging in research allows students to delve deeply into their field of study, gaining a more comprehensive understanding of the subject matter. This hands-on experience often leads to a more profound grasp of theoretical concepts and their practical applications.
- **Convey** that conducting research involves presenting findings, writing reports, and often collaborating with peers and mentors. These activities enhance students' ability to articulate complex ideas clearly and effectively, both in writing and verbally. Students who participate in undergraduate research also see improvement in communication skills.
- **Disseminate** information about how engaging in research allows students to delve deeply into their field of study, gaining a more comprehensive understanding of the subject matter. This hands-on experience often leads to a more profound grasp of theoretical concepts and their practical applications. Research experience equips students with valuable skills such as critical thinking, data analysis, and project management, which are highly sought after in various industries. This preparation makes them more competitive in the job market and better prepared for advanced studies.
- **Express** how empowering students through research allows them to take ownership of their learning. Encouraging a growth mindset involves promoting the belief that abilities and intelligence can be developed through dedication and hard work. This mindset helps students embrace challenges, persist in the face of setbacks, and view effort as a path to mastery. It also builds their confidence in their abilities and fosters a sense of self-efficacy, which is the belief in their capacity to execute tasks successfully.

Career and Work Readiness

HOW DO I COMMUNICATE THE BENEFITS OF UNDERGRADUATE RESEARCH TO STAKEHOLDERS?

RESOURCES:

- [Designing a CURE](#) for the classroom
- Peer Review Response [Form](#)
- Peer Review [Worksheet](#)
- Student survey questions that will provide valuable feedback [Repository](#)
- Assigning and Managing Collaborative Writing Projects [Toolkit](#)
- Fostering Independence [Worksheet](#)
- [Quick Tips](#) to Infuse a Growth Mindset in Your Classroom
- Career Fair [Assignment](#)
- How to Make the Most of Career Fairs [Handout](#) Career Fair Reflection [Assignment](#)
- Career-Related Classroom [Assignment Examples](#)
- Resume Writing [Assignment](#) and [Rubric](#)
- NACE Career Readiness [Competencies](#)
- KSU Career Exploration [Webpage](#)
- KSU Job & Internship Fair [Webpage](#)



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ACKNOWLEDGEMENTS



This toolkit is the result of the expertise of many faculty in our college as well as the Office of Academic Innovation Faculty Fellows. Thanks to everyone for offering their thoughts, feedback, and guidance. This guide is a living document and will continue to evolve as faculty and other stakeholders offer input and engage with this resource.

UPDATES

This toolkit is a living document that is updated annually by faculty in our college who submit their ideas and materials as well as by the Faculty Fellows. Please feel free to submit questions, suggestions, or feedback via email to OAI@kennesaw.edu



DISCLAIMER

DISCLAIMER: This toolkit is designed to be a resource. Every effort will be made to ensure the information in this guide is accurate and up to date; however, there is no guarantee, explicit or implied, regarding the information presented in this guide.

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CONTACT INFORMATION



oai@kennesaw.edu



5086 Social Sciences Building



<https://radow.kennesaw.edu/academic-innovation/>
