

Pathways: Undergraduate Research

Most critical in the journey toward developing as a whole person, and the thread which ties together our education programs, is the structure we provide to help students be more intentional and goal-focused in selecting from and participating in the wealth of opportunities we provide, and how we help them understand and articulate the value of their choices for themselves, their goals, and their development in pursuit of their post graduate plans. To provide a framework for this development in the context of experiential learning, the following are required steps in a Pathways-supported undergraduate research project.

Step 1. The Learning Agreement

Prior to the beginning of a research project and in consultation with the faculty mentor, a student develops a learning agreement incorporating program learning outcomes as well as individualized learning outcomes as appropriate to the student's learning goals. These outcomes focus on applying academic knowledge, achieving personal/professional growth, and understanding this activity/issue in relation to the greater community. This intentionality represents the purposefulness that transforms the experience into meaningful learning. The learning agreement also serves to set boundaries, roles, and expectations, and ensures that the student enters the experience with sufficient foundation to support a successful experience. At the same time, the agreement should be flexible enough to allow for adaptations as the experience unfolds. The main point here is that students should go into the research project understanding its purpose and knowing the learning goals associated with the project.

Step 2. Ongoing Guided Reflection

From the initial stages of planning to a post-experience public showcasing, students should engage in ongoing guided reflection, that is, the productive interplay of reflective observation, abstract conceptualization, and active experimentation that is at the heart of experiential learning. This guided process helps students find meaning in their experiences and achieve growth in all three areas of development (academic content, personal/professional development, and societal engagement). Students must be prompted to reflect in each of these three categories, examining their experience to enhance their knowledge and articulate their learning. In other words, students should be thinking about more than just what it is they're doing, but also why it is they are doing it, what skills, knowledge, and behaviors they are developing, and how this will benefit them moving forward during their time at Roanoke College and beyond. Therefore, reflection should be:

- **Continuous:** Reflection needs to be an ongoing part of the research project, taking place before, during, and after an experience.
- **Connected:** Reflection is the tool that allows students to make the connection between their "experience" and the academic "learning" in the classroom.
- **Challenging:** Faculty mentors must be willing to pose questions or ideas that challenge student thinking and could prove uncomfortable to students but should be done in a respectful manner.
- **Contextualized:** Faculty mentors must ensure that all reflection activities are set within a context that will make it meaningful in relation to the experiences of the students.

The DEAL Model¹ for critical reflection provides a detailed method for critical reflection which ensures the quality of the reflections and the means to assess learning outcomes. Critical guided reflection can be facilitated through various types/modes of writing or through weekly conversations. There are many mechanisms to facilitate ongoing guided reflection and include but are not limited to: journal, online blog, e-portfolio, and others. It is up to the faculty mentor as to which tool to use. **Note: The DEAL model is intended to be a guide for prompting reflections. Though a faculty mentor is expected to use the D-E-A-L framework, they should develop specific prompts within that framework which connect to the student's specific work and learning objectives.**

¹Ash, S.L. & Clayton, P.H. (2009). Generating, Deepening, and Documenting Learning: The Power of Critical Reflection in Applied Learning. *Journal of Applied Learning in Higher Education*. 1(1).

The reflective process culminates in a final reflection paper which provide students the opportunity to articulate their learning during the experience for others in addition to their faculty mentor. It also provides the framework for the conversations they will have during a showcasing event. **This final reflection paper is submitted to the Director of Experiential Learning to be included in the Pathways assessment and evaluation process.**

Step 3. Showcasing Event

An important step in the process of experiential learning is articulating the meaning(s) derived from an experience to a broader community. This public showcasing allows students to draw together their reflections throughout an experience and to talk about the ways in which that experience has transformed them on multiple levels. Faculty mentors are expected to guide students in their poster and/or presentation skills development. **Students are expected to participate in an on- or off-campus showcase event. Please take advantage of the events we host in the library each semester.**

Overarching Pathways Student Learning Outcomes

Students participating in the Pathways Program will:

1. Critically reflect on experience from academic, personal/professional, and civic perspectives.
2. Articulate learning gained through experience.
3. Demonstrate effective reasoning or problem solving skills.
4. Collaborate effectively.
5. Synthesize knowledge in a final project or showcase.

Though most of these learning outcomes are able to be assessed through the reflection paper and poster presentation, some require direct input from faculty mentor. **Therefore, faculty are expected to submit a completed evaluation form at the end of the semester (provided by the Director of Experiential Learning).**

Project Support

Faculty supervising Pathways Undergraduate Research projects are eligible to apply for funds to support the research (**up to \$500**). These funds may be used for equipment/materials/supplies needed for the research, travel, or a host of other things, or other costs associated with supporting and enhancing the experience.

Faculty Support

Implementing these quality enhancements will require faculty to invest time in training, project planning, and guided reflection. In recognition of these new responsibilities, faculty and staff supervisors of Pathways research projects will receive a **stipend of \$400** to acknowledge the extra work involved in designing and supervising these high quality experiences and to reward them for furthering the educational goals of the college in this area.

For additional information please contact:
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