Activity

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Professional Experience Requirement

Educator: Clarkson University, Wallace H. Coulter School of Engineering [1]
Context: Out of class
Keywords: leadership experience, research experience, co-ops/internships, experiential learning
Student Activity Time: significant experience outside of class

Students individually participate in a self-selected professional experience and then reflect on their experience.

Introducing the Reflection Activity

At Clarkson University, as part of the Clarkson Common Experience curriculum, the "Professional Experience Requirement" is a graduation requirement for the BS degree. The objectives of the professional experience are:

1. Students should develop an appreciation of the need for self-motivated life-long learning:
    a. Students should understand the need for continuously updating their professional skills after graduation.
    b. Students should demonstrate learning effectively on their own.
2. Students should develop an increased social awareness and interpersonal competence:
    a. Students should demonstrate leadership skills such as goal setting, change management, ethical behavior, and providing actionable feedback.
    b. Students should demonstrate teamwork skills such as building effective relationships with peers, being a collaborative team member, and identifying and managing team conflict.
    c. Students should demonstrate an understanding of the value of service to the University, to the community, or to the profession.

For the Professional Experience Requirement, Clarkson's School of Engineering allows students flexibility in satisfying the requirement (e.g., internship or co-op, a significant research experience under a suitable mentor (an REU), an honors thesis, formal summer leadership experience training for ROTC cadets, a significant service learning experience, a significant leadership role with a design competition team, or a suitable senior capstone design experience). In the end, because this requirement is

[1] Educators interviewed: Dr. John Moosbrugger, Dr. Daniel Valentine; Dr. Richard McCluskey; Dr. James Svoboda; and Dr. Kerop Janoyan

administered by each of the academic departments within the school, each department determines what is or is not acceptable.

The requirement is associated with a 0 credit course, which is graded on a pass/no credit grading basis. To begin, registration in this course requires the student to complete a "pre-approval worksheet," which asks the student to provide information about the experience they are proposing. The purpose of the "pre-approval worksheet" is for the student to provide a description of the learning objectives she/he anticipates attaining through this experience. Then the academic advisor and program administrator approve it.

After the experience is completed, to receive credit, students complete and gain approval of a "post-experience worksheet." This worksheet, in essence, prompts students to reflect on their experience and describe how they met the objectives for the "Professional Experience Requirement." In the "post-experience worksheet" students:

1. Summarize their project experience.

2. Reflect on their self-learning in the project experience by giving examples of concepts they learned on their own.

3. Reflect on their leadership in the project experience by giving examples of skills they used such as goal setting, change management, and ethical behavior.

4. Reflect on their teamwork in the project experience by giving examples of working with others in a collaborative environment, contributions to team efforts, and identifying and managing team conflict.

5. Reflect on their service in the project experience by explaining how it provided service to the university, community, or profession.

In terms of outcomes, this requirement incentivizes students to gain professional experience and then to articulate what they learned during that experience through the reflection component. The reflection component requires students to think about significant aspects of the professional experience that are associated with intended learning outcomes. Students may not be explicitly aware that they have achieved these outcomes through the experiential learning component. The reflection component encourages students to connect their experience to the intended outcomes of the requirement, so it is helpful for personal and professional growth. It also presents young engineers with a useful communications assignment and the questions can often serve as a basis for worthy, informal discussions with a student's mentor or young, professional colleagues.

Recreating the Reflection Activity

	Description
1	Create requirements for the professional experience or use the requirements outlined here.
2	Establish institution and program level administrative structure.
3	Establish resources/activities to help students arrange professional experiences (e.g. curricular or co-curricular activities, industrial or other independent activities)
4	Provide advising to students about requirements and opportunities.
5	Monitor department's and student's involvement in the professional experience.

In the words of the Educator: Tips and Inspiration

Make the reflection questions clear. Sometimes students struggle to see the differences in the reflection questions, so that can be confusing to them. It is important to know the purpose of each reflection question and convey the differences to the students. They must be able to make sense of what is being asked, so they know the differences in the questions.

Set a minimum bar for the reflection worksheet. Historically, there has been no criterion for accepting or rejecting the worksheet. Some students take that as a challenge to see how little can be put into the worksheet and still pass.

Encourage students to start working on this requirement and the reflection early. While some students work on this requirement early, there are a few students who wait till the last minute to fill out the worksheet. Then the reflection is rushed and not as meaningful. Or, worse, they have not had a relevant professional experience to seek credit for as their last term is upon them.

Have alternative experiences. Clarkson has been flexible with the types of experiences they accept for this requirement, so there are plenty of safety nets for students who don't pursue traditional professional experience (e.g., undergraduate research, co-curricular engineering teams).

Provide more support structures for transfer students. It is important to recognize that transfer students have less time to think about and fulfill this requirement. Also, because they haven't been introduced to this requirement several times in different contexts (e.g., first-year orientation, department orientations), typically they are more confused and they worry if their experience fits the requirement.

Consider a shorter reflection activity. While the reflection component is important to student learning, there are opportunities to streamline it. For example, maybe the same information could be captured in an e-Portfolio.

Recognize areas of potential complexity. At Clarkson, there are two worksheets for students to complete—one for the department and one for the career center.

Students often get confused. They forget to fill the worksheet out for the department, because they think they already did it. It might be helpful to streamline the process to one worksheet.

Figure out faculty involvement. At Clarkson, some faculty want to be involved, others don't, and sometimes faculty forget what the requirements are. These dynamics make it challenging to manage the process. It would be beneficial to figure out faculty involvement from the beginning.

What was the inspiration for the activity? The Professional Experience Requirement is part of the Clarkson Common Experience (CCE). Institutionally, this serves the role of a general education curriculum. There is flexibility in meeting the requirements of this component of the CCE, and the School of Engineering chose a flexible experiential learning approach along with the post-experience reflection activity.