

STUDENT PERSPECTIVES OF SPONSORED PROJECTS: BEST PRACTICES FOR PROJECT SELECTION AND PREPARATION

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Abstract

Much research has been published that discusses the benefits and challenges that exist when university programs engage students in a sponsored project with industry. The consensus among instructors is that the educational benefits far outweigh the challenges of these projects, but what about the student's perspective? Do students value sponsored projects, and are they prepared for them? To better understand how these learning experiences can be improved, qualitative feedback was obtained from a sample group of students who recently participated in such projects. After interviews, their feedback was summarized, analyzed, and reflected upon by faculty. From the results, a set of best practices were developed to help instructors select projects and prepare students for collaborative engagement with industry.

Introduction

In professional fields of study, engaging students in sponsored projects with outside entities has been shown to have an impact on learning outcomes desired by educators (Maass 2011), but in what ways? Institutions and faculty may have ideas about the value of sponsored projects, but what about the students' perspective? Are the students really gaining from these types of projects in the way that educators hope? This paper reports on student perspectives concerning such projects, providing insights to help instructors select outside projects for their students. Best practices are developed to better prepare students for successful participation in these projects. By discussing the benefits and challenges of sponsored projects, and by exploring the differences in learning opportunities between sponsored and instructor-assigned projects, design educators will be able to make more informed decisions about which type of project is more appropriate for the learning objectives of their classes. Ultimately, the efficacy of implementing sponsored projects depends on project selection and a positive, communicative relationship between the instructor and the client (Caston and Klein 2014). By carefully weighing the pros and cons of sponsored or instructor-assigned projects, instructors can combine successful "real-world" learning experiences with their own assignments in order to achieve a more rounded education for their students.

Methods

Participants

This IRB-approved study included a focus group interview with five students who recently completed a sponsored project while enrolled in an undergraduate Industrial Design program at a large urban university in the Rocky Mountain region of the United States. Two university faculty members participated in the reflection process and data analysis based on the focus group interview discourse. The method of convenience sampling was used to recruit student-participants within the Industrial Design program who (a) were enrolled at the time of the study in classes not taught by the two faculty members, (b) agreed to participate in the interview



about sponsored projects they had recently completed, and (c) provided open and honest responses to questions and topics presented. Participating faculty members contacted each of the student-participants via in-person or email correspondence.

Data Collection Procedure

The student-participants took part in a 90-minute focus group interview with pre-determined questions. Both faculty members facilitated the session and used active interviewing throughout the focus group study. The open-ended questions and active interviewing techniques allowed for further discussion of a participant's response in order to gain a more thorough understanding of the student's perspective (Holstein and Gubrium 2003). Sample questions from the focus group interview are shown in Table 1. The faculty participants documented and identified trends within the responses.

FOCUS GROUP INTERVIEW QUESTIONS

In what ways are sponsored projects different from instructor-assigned projects?

Considering your most recent sponsored project:

- What were the best aspects about the project experience?
- What were the worst aspects about the project experience?

Considering your educational development, do you think you gained more valuable experience working on a sponsored project or an instructor-assigned project in the following areas:

- Networking opportunities/building relationships
- Broadened perspectives
- Increased motivation to work on the project
- Project management skills
- A strengthened portfolio/resume

Do you feel that your involvement in these sponsored projects helped prepare you for working in the "real-world" (after you graduate)? How?

What do you think are the most important criteria for selecting an outside entity for collaboration on a sponsored project?

What are the biggest challenges of sponsored projects?

How could these learning experiences be improved? Are there components that you would change about the projects to help you gain more from them?

Table 1. Sample questions from the focus group interview

Data analysis

The focus group provided a vehicle for member checking throughout the interview as the interviewer summarized or restated information regarding participant responses in order to increase the credibility and validity of these responses. In an effort to recognize existing patterns, an inductive analysis of the documented artifacts (i.e., field notes) was conducted (Johnson and Christensen 2004). These data were collected independently by both faculty members present for the focus group interview. Patterns can be identified from collected data and a greater understanding occurs through the development of emerging themes (Thomas 2006).

After the focus group interview, the faculty members conducted a content analysis of their reflections. Both inductive and deductive methods were used to determine core consistencies and meanings of concepts, as well as draw new theories from old theories (Zhang and Wildemuth 2009). Conclusions from this analysis revealed major themes and/or patterns in the students' responses, which helped faculty form strategies to enhance student learning outcomes from participating in sponsored projects.

Results

A better understanding of students' perceptions of sponsored projects was achieved through the analysis of the interviews and discussions. These data were divided into

two primary themes: (a) student perceptions of the educational value of engaging in sponsored projects versus instructor-assigned projects and (b) strategies faculty adopted to increase educational value when facilitating sponsored projects. Within each theme, sub-themes were identified by recording the most important and meaningful statements expressed by each participant in response to the questions. The following chart indicates each theme and their sub-themes (see Figure 1).

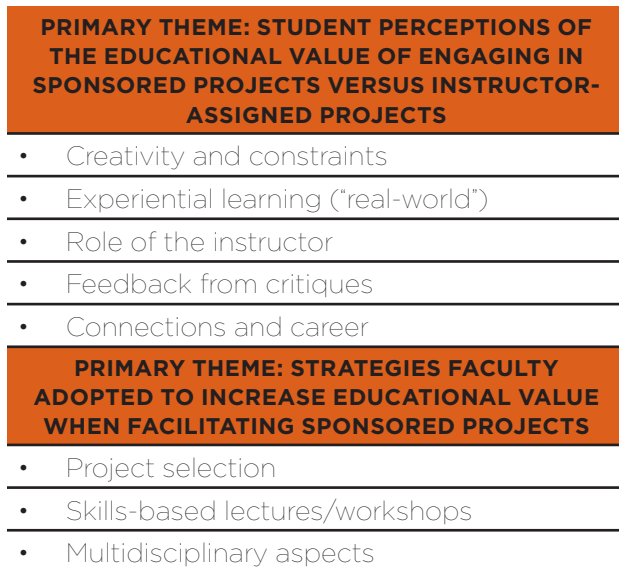


Figure 1. Emerging primary themes and sub-themes from this study

Primary Theme: Student perceptions of the educational value of engaging in sponsored projects versus instructor assigned projects

The following is a summary of the sub-themes discovered by faculty based on student comments during the focus group study. The term “students” is used in reference to this small group, not necessarily all students in the Industrial Design program.

Creativity and Constraints

When students were asked what ways sponsored projects and instructor-assigned projects differ, they expressed an opinion that instructor-assigned projects tended to be more “blue-sky” (open to creativity), while sponsored projects tended to be more constrained (restricted to specific

manufacturing processes, materials, and/or price points). In their opinion, it was also possible for clients to encourage students to pursue a concept that the student considers to be a weak design direction, yet the client determines to be an effective choice in the short term. A good instructor-assigned project might encourage a unique or daring direction that a typical client might not find profitable or realistic. In this respect, students felt the sponsored projects did not always result in portfolio content that was as impressive as some of their work from instructor-assigned projects. Furthermore, they believed instructor-assigned projects provided a practice environment for isolating and focusing on design-specific aspects. Freedom from client pressure allowed them to be more creative. Because of the increased risk that students are allowed to take in assigned projects, there is potential for exceptional success or failure. Students commented that a certain amount of failure is tolerated in assigned projects because the instructor understands the value of failing in an educational environment.

Experiential Learning

As the dialog shifted toward a focus on experiential learning, students expressed the belief that perhaps sponsored projects were more meaningful and realistic to them, making prerequisite courses more applicable. They experienced what it might be like to work in the real world, which helps to build confidence in their abilities. Without sponsored projects, students said they would likely be more anxious about their first professional experience. Instructor-assigned projects are not considered as high of a priority as those for real clients, and they do not always motivate or draw the best work from the students.

But there were also negative aspects to sponsored projects that frustrated the students. For example, if the client did not have a defined vision for their project, it was difficult for students to determine the appropriate

direction to pursue. Projects without parameters still require some kind of focus. If there are no defined goals and deliverables, it can feel like the client is expecting students to do someone else's job for them or it can feel like "idea farming." A consequence of this was that the students were disillusioned about working on projects that had no realistic potential for their ideas to be implemented and/or actually taken to market.

Additionally, students might not experience broadened, balanced perspectives through sponsored projects. Perspectives on the reality of the multidisciplinary process of product development (dealing with non-designer clients) and the "business"



Photo: Student Ryan Moseman's sponsored project, the "FreeRider" pannier

Role of the Instructor

In instructor-assigned projects, the instructor is viewed as the client and interacts with the students daily. In sponsored projects, students view the instructor as the project manager facilitating communication between the students and the client. In some sponsored projects, students felt like the client's profit-driven goals became more important than the instructor's educational goals. Students emphasized the importance of balancing the two.

Feedback from Critiques

Sponsored projects result in more genuine and useful feedback from a real, professional client, yet it can be frustrating for students when the clients expect a professional level of work. There is a gap between professional and student work, and some clients will expect too much. Clients who are not familiar with the iterative design process might select a poor design early on and encourage students to pursue it. This can result in lowered motivation for the student and ultimately a lower quality final design that the student might not be proud of. It is important for the sponsor to be familiar with the stages that a designer must go through in order to develop a quality solution to a given design problem.

Connections and Career

Students commented that it is rewarding in many ways to contribute to a local entity through a sponsored project. They felt good about supporting local industry. They gained access to materials and processes they might not have been able to in their everyday schoolwork; they also often received financial support and rewards for the project. However, one of the most significant benefits they noted was the professional and personal connections they made through the projects. Sponsored projects offer networking opportunities, potential relationship-building with professionals, exposure to additional fields beyond the student's major, potential for employment, and occasionally an internship and full-time employment. Sponsored projects help students prepare for professional life by teaching them to design for others. They learn to consider their client's input and to weigh consumer demands, market potential, manufacturability, and ultimately profitability as they develop their designs.

Discussion

Primary Theme: Strategies faculty adopted to increase educational value when facilitating community engagement projects (See Table 2).

STRATEGY	CONCEPTS
Client Selection	<ul style="list-style-type: none"> Is available and accessible for feedback Has a set vision and well-defined project goals Understands student abilities and educational goals
Instructor Contributions	<ul style="list-style-type: none"> Project manager, liaison Comprehensive project brief Skills-based lectures/workshops
Multidisciplinary Aspects	<ul style="list-style-type: none"> Exposing students to multiple aspects of product development Utilizing guest speakers from other disciplines Collaborating inter-departmentally

Table 2. Strategies for project selection and preparation

A summarization and discussion of the thematically categorized findings provide an explanation of their significance in the formation of best practices (Bishop, Caston, and King 2014). Ultimately, three strategic subthemes emerged that set the foundation for planning and implementing successful sponsored projects: (a) client selection; (b) instructor contributions; and (c) multidisciplinary aspects. Proactive strategies were proposed and recommendations discussed in order to establish best practices.

Client Selection

During the focus group study, sponsor/client availability and accessibility throughout the course of the project was noted by the students (and seconded by the faculty) as being among the most important criteria when selecting an outside organization for a sponsored project. Availability is even more important than the specific organization or project. Without consistent client presence,

the students and the instructor can be left without feedback and appropriate direction on how to proceed at critical stages of the project. The instructor and the sponsor should agree well in advance on calendar dates when the sponsor will be present to provide feedback. To prepare for unforeseen circumstances that might prevent a sponsor from attending a key meeting with the students, the sponsor should identify a backup representative who will be available or accessible on the same dates. The stand-in representative should be familiar with the project so as to be able to provide critical feedback on presentations or deliverable due dates. Other than in-person meetings, sponsors may make themselves available through Skype conferences, emailed PDF presentations or online file sharing, site visits, and so on.

Projects conducted in collaboration with organizations that have a defined vision and well-considered project goals are more likely to be successful than projects with companies looking for very broad, “blue sky,” or intangible deliverables. For example, if a company is looking to develop a new product line in an area that is divergent from their current product offerings, they may expect the students to take on more responsibilities or a wider scope than the students are capable of. For the purposes of the course, it is better to select projects that already exist, but need further development (e.g., aesthetics, manufacturability, user interaction). If students are given the wider responsibility of completing all the aspects of product development (e.g., invention, marketing, engineering), they are more likely to falter.

The size or market presence of the sponsoring organization is not a particularly important factor in choosing a community partner to work with. Smaller, less established companies are often more eager to work with students, which can result in greater time invested by them engaging the students and providing

feedback. This eagerness from professionals who want to interact with the students helps further motivate the students to participate.

It is important to seek a balance between the client's and the instructor's expectations for the project. Not all companies are a good fit for sponsored academic projects. Before setting up the project, the instructor should meet multiple times with the prospective client to gauge their commitment and motivation, and even assess the personalities of the company's leaders. Preliminary client meetings provide the chance for instructors to inform the sponsor about the educational goals and learning outcomes for that particular course. Additionally, during these initial meetings, there should be agreement on the deliverables expected at each stage of the project so as to prevent unrealistic, uninformed expectations from the sponsor. Sharing examples of previous student work will provide a common understanding to work from.

Instructor Contributions

The role of the instructor is different in instructor-assigned projects versus sponsored projects. When participating in instructor-assigned projects, students can easily adopt the view that the instructor is the client. They sometimes have a tendency to follow the suggestions of the instructor in hopes of receiving a higher grade. When participating in sponsored projects, the sponsor is viewed as the client while the instructor is viewed as the project manager and liaison between the students and the sponsor. Instructors take on this role of facilitator, collaborator, and even team member, working with the students to achieve the project goals. In this unique role as a project manager, instructors should be expected to lead creative brainstorm sessions, guide design development in accordance with the project goals laid out by the sponsor, and keep students on track by helping them develop and adhere to a workflow schedule. Another sizable responsibility for the instructor is to facilitate the communication

and interaction between the students and the client. This will involve many more conversations, phone calls, and emails than an instructor would be responsible for in a typical assigned project.



Photo: Students participating in an instructor-led brainstorm activity session.

When drafting the brief for a sponsored project, the academic goals should be in alignment with the client's goals. This is best accomplished by writing in collaboration with the client, either combining them in a single document, or distributing them as two separate documents. A comprehensive project brief can be more challenging to create than one for an instructor-assigned project. Each sponsored project brief will be unique. The brief should also contain the project phase deadlines, with clear descriptions of what deliverables are expected from students at each step of the project. For this reason, planning can be more difficult with sponsored projects, as these dates and deliverables need to be agreed upon with the sponsor in the preliminary meetings prior to the launch of the project. If an instructor is not experienced with sponsored projects, he or she should allow more flexibility in the schedule and deliverables by adding "work days" and specifying a broader range of deliverables expected of the students.

During the focus group study, students agreed that senior capstone courses or studio courses offer the potential for exciting

experiential learning opportunities through the assignment of sponsored projects. However, they felt these types of projects sometimes lacked skills-based instruction. Instructors can supplement the projects with lectures or workshops on related topics such as professionalism, communication with industry, workflow, project management, presentation techniques, and new software. Since each sponsored project might be different and could change from semester to semester, this also offers the unique learning opportunity for skills-based lectures/workshops that are very specific to the product or processes that the sponsoring organization uses within their business. These skills-based lectures/workshops should be incorporated into the project brief and schedule so that students are learning what they need to be successful at each specific stage of the project.

Multidisciplinary Aspects

Sponsored projects offer opportunities for students to be exposed to a much larger “real-world” perspective of product development and to gain access to resources that might not be available in instructor-assigned projects. While the instructor often acts as the liaison between the sponsoring organization and the students, students are encouraged to take



Photo: Industrial Design students collaborating with CEO and engineers from sponsoring company.

To further enhance students’ experiential learning, instructors can utilize guest speakers

from other disciplines surrounding the project. These guest speakers can be colleagues from other departments within the college or university, employees of the sponsoring organization, or community professionals. Supplementing the course with guest lectures, demos, and workshops expands learning opportunities for the students and ultimately results in improved project outcomes for the sponsoring organization as well.

Another means of providing a more expansive education for students through sponsored projects is by cross-listing the course with appropriate courses in other departments within the college/university such as engineering, marketing, communication design, and business. Often the cross-listed courses involve interdisciplinary group work in teams, which mimics professional product development teams. This small group learning experience allows students to share ideas and learn from one another through peer tutoring (Bishop, Caston, and King 2014). However, it can be very challenging to schedule a cross-disciplinary course. Two or more departments must coordinate the time and location of the class so that it does not interfere with schedules of students and instructors from any of the disciplines. Ideally instructors from each discipline will share in teaching the course, but it can also be difficult for multiple instructors to agree on the student learning objectives, sponsored project goals, schedule, and workflow. A simplified version of this model would be to keep the classes separate and come together as a group once a week to work collaboratively on the project. Another option is to house the project in one class only and work collaboratively in teams only for portions of the project that require input from the students of other departments. This will reduce some potential frustrations in aligning schedules and course objectives.

Conclusion

The following conclusions can be made based on the feedback from students and the experiences that faculty have had in implementing sponsored projects in the classroom. (i) A good balance is necessary between the number of sponsored projects and instructor-assigned projects in the program's curriculum. Students benefit in different ways from each of these types of projects. (ii) Client and project selection are extremely important to the success of sponsored projects and, more importantly, the learning outcomes for the students. (iii) This involves a great deal of planning and communication and will ultimately require a greater contribution from the instructor. (iv) Sponsored projects are experiential learning opportunities that allow students to be a part of a "real-world" product development team. Utilizing guest speakers, providing workshops, and coordinating cooperative efforts between departments can further expand the students' holistic understanding of the multi-discipline effort involved in product development. Ultimately, this experience will better prepare students for a successful professional career.

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