"Operation Recreation: Adventure Challenge": Teaching Programming through Problem-Based Learning Theory

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Abstract

We describe a semester-long teaching/learning approach employed in three recreation programming classes at the University of Utah that incorporated aspects of Problem-based Learning (PBL), theory-based programming concepts, and practical experience. The semester culminated in "Operation Recreation: Adventure Challenge," a day-long six-stage adventure race held on campus. The event was conceived, planned, carried out, and evaluated by the students enrolled in the three programming classes. In the following pages, we discuss how we incorporated PBL into our teaching, how PBL informed "Operation Recreation: Adventure Challenge" and student learning outcomes, and how the reader might employ PBL similarly.

KEYWORDS: Problem-based learning, recreation programming, collaborative learning

Undergraduate programming classes provide a meaningful opportunity to incorporate problem-based learning (PBL) into a class project. PBL is a teaching method based on the principle of using problems as the starting point for the acquisition of new knowledge (Lambros, 2004). The problem to be solved is typically ill-defined, and students must work in small groups to develop a solution. The instructor fades into the background and students must find answers to the problem(s) themselves.

In programming classes at the University of Utah, the problem that students identified was to create a better sense of community in the Department of Parks, Recreation, and Tourism (PRT). The University of Utah is a commuter school, which does not lend itself to fostering a sense of community. Moreover, there are five different emphasis areas for undergraduates in PRT, and students pursuing different career paths often go through their undergraduate studies without seeing one another in a non-academic setting.

Application of Problem-based Learning

To help foster a tighter sense of community, the students designed a program similar to the television series *The Amazing Race*—an adventure experience where teams move from station to station by solving puzzles and performing challenges. The programming process progressed through the following seven steps.

Step 1: Introduce Approach to Students

In general, the students in our department are accustomed to traditional classroom instructional methods. PRT students' attitude to their education could be summarized as: "You teach me. I take tests. I pass the class and then take another." Instructors in the PRT department anticipated that an alternative model of instruction would be bewildering and cause some anxiety. Consequently, we introduced a collaborative, two-part experiential learning process. First, we included a careful description of PBL and its goals in the course syllabus. Second, we used frequent group discussions to clarify roles and further define expectations. Once students understood the structure of the course, they moved on to the type of event they were going to program.

Step 2: Decide on a Program

Instructors introduced two techniques to generate ideas and involve all students in the planning: 1) brainstorming and 2) a nominal group decision-making process (Levi, 2007). This allowed students to experience the role of creativity in programming, a concept described in most programming texts (e.g., DeGraaf, Jordan, & DeGraaf, 2005). We evaluated students' ideas based on feasibility, their skill and interest level, cost, and the ability to engage 75 people in carrying out the program. This process took two weeks and resulted in the birth of "Operation Recreation: Adventure Challenge."

Step 3: Implement Program Theory

This step required use of a text that fit our philosophy of recreation and programming— Rossman and Schlatter's (2003) *Recreation Programming: Designing Leisure Experiences.* We believed intentional, outcome-based programming was important for students to understand, and used it as the framework for our program. Once we had thoroughly covered key concepts, the students were ready to organize the essential functions required to plan and implement "Operation Recreation: Adventure Challenge."

Step 4: Organize Group Tasks

Using the text and past experience as a guide, the students created five distinct groups: risk management, marketing, finance, animation, and evaluation/coordination. Students self-selected for these groups which benefited the class in two ways. First, students chose an area they were interested in which helped motivate them. Second, they selected their work companions based on schedules, friendships, and a similar work ethic. This step aided in effectiveness and efficiency.

Once groups were established, the students soon learned the wide variety of problems, challenges, and questions that arise when planning a public event. For example, the risk management group met with the university attorney and learned that they could not use the word "race" in the title. Moreover, event participants could not cross roads, use public transportation, or employ private vehicles. The finance group learned that community retailers, organizations, and companies were eager to donate product and in-kind donations, but were less able to provide cash. Therefore, they had to reconsider how to raise the required money to fund the event. Students in every group learned to communicate with each other, and they went through all phases of the group development process (e.g., forming, norming, storming, etc.).

Step 5: Navigate Communication and Group Dynamics

Communication and attention to group dynamics within and between groups required constant consideration. The students used phone, email, face-to-face meetings, and Facebook as forms of communication. Despite the numerous communication modes, students still experienced a significant amount of conflict due to poor communication. Again, the PBL approach provided authentic lessons for students to understand the importance of effective communication styles.

Many groups invited their instructors to attend their meetings throughout the semester. We were delighted to attend and felt this was an excellent indicator of student investment. The students were not asking us to tell them what to do. They simply wanted us to be aware and informed of what they were doing. We never led when we attended meetings. We were there to answer specific questions and listen. Continuous processing during class was another technique that assisted communication and group dynamics.

Step 6: Process the Experience

Processing the experiences that students were going through was essential to our success and occurred in all phases of the course. Processing techniques included reflective writing, anonymous in-class reflections, working in dyads, conflict resolution exercises, and open and guided discussion. Individual students as well as entire groups of students often used instructor office hours as a time to debrief and discuss feelings and opinions about the project. In the beginning, processing was conducted exclusively by the instructors; however, by the end of the semester the students were initiating and leading processing sessions. We found if

we let students "stew" in their negative or doubtful feelings, those feelings could quickly escalate to anxiety and spread quickly to other students. Therefore, keeping an "open door" policy and processing the experience was critical.

Step 7: Run the Event

Running the event was the easiest part of the overall project. The students intentionally designed six activity stations located across campus. Participants were outfitted with a rucksack of supplies consisting of a map, a passport that was stamped after successful completion of each station, and a clue to their first station. In addition, students organized a barbeque and arranged for a bluegrass band to play throughout the event. After completing the event, participants were free to eat, dance and play "pick up style" games such as Frisbee and soccer. An award ceremony and raffle concluded the day. Student enthusiasm was incredible and definitely made the process, which was challenging at times, well worth it (access "Operation Recreation Movie" http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=2030989687).

Learner Outcomes and Recommendations

Student learning outcomes were significant. Understanding the nuances of running a program from scratch is best gained by experiencing it firsthand. In particular, students gained an understanding of how the team process is negotiated and what types of behaviors detract from it. They learned the importance of clear communication, the consequences of social loafing, and the pride in running a successful event. They learned about programming concepts and had an immediate, meaningful context in which to apply them. "Operation Recreation: Adventure Challenge" made it possible for students and instructors alike to learn about their abilities and each other through authentic lessons related to event planning and programming.

Of course, as instructors we had our share of problems. Chief among them was the level of student anxiety related to grades. Even though we de-emphasized grades, students were worried about how the event's success, or lack thereof, would reflect in their grade. We recommend minimizing this concern as much as possible through alternative grading schemes and constant verbal reinforcement. At the same time, such anxiety is not so far removed from what students will someday experience in professional practice. Maintaining a balanced perspective is important.

In the final analysis, "Operation Recreation: Adventure Challenge" demanded cooperation and coordination among three separate sections of programming classes. This, in turn, demanded that the three instructors share a similar teaching philosophy. In addition, we found that when implementing PBL instructors must be open and comfortable with failure as a possibility. It also became evident that students often discussed their programming challenges with other faculty and staff in PRT and frequently sought advice from them regarding the best means to achieve their mission. In many respects, "Operation Recreation" turned out to be

a department-wide project. Given the overall goal of enhancing a sense of community within PRT, this turned out to be a most serendipitous program outcome.

References

DeGraaf, D. G., Jordan, D. J., & DeGraaf, K. H. (2005). *Programming for parks, recreation, and leisure services: A servant leadership approach* (2nd ed.). State College, PA: Venture.

Lambros, A. (2004). *Problem-based learning in middle and high school classrooms*. Thousand Oaks, CA: Corwin Press.

Levi, D. (2007). *Group dynamics for teens* (2nd ed.). Thousand Oaks, CA: Sage.

Rossman, J. R., & Schlatter, B. E. (2003). *Recreation programming designing leisure experiences* (4th ed.). Champaign, IL: Sagamore.