Collaborative and Sustainable Instructional Design Model for Service Learning

Brian R. Belland  
bbelland@purdue.edu

Vanitha Vaithinathan  
vanitha@purdue.edu

Belen Garcia  
garcia20@purdue.edu

Department of Curriculum and Instruction  
Purdue University  
3134 BRNG  
100 N. University St.  
West Lafayette, IN 47907

Wen-Hao Huang  
wdhuang@uiuc.edu

Department of Human Resource Education  
University of Illinois, Urbana-Champaign  
351 Education Building  
1310 S. 6th St.  
Champaign, IL 61820

Abstract

Service Learning (SL), in which students learn content while performing service in their community, has been used increasingly in K-12 and university contexts (Seitsinger, 2005). Service or Learning often dominates “SL courses” due to lack of effective front-end analysis and ongoing communication between stakeholders. We created a new instructional design model to encourage designers of SL courses to link community needs to learning needs and develop communication supports to balance and sustain SL projects.

Introduction

Gagné, Briggs and Wager (1988) defined instruction as “a deliberately arranged set of external events designed to support internal learning processes” (p. 11), and noted that the first step in the design of instruction is the definition of intended learning outcomes in terms of measurable objectives. But what happens when traditional, performance-based learning outcomes are not the only intended outcomes of instruction? In this paper we describe a new instructional design model that guides designers to consider two sets of needs (and thus outcomes)—Learning and Community—when designing Service Learning courses.

Service Learning: A Definition

Service Learning is a pedagogical approach in which students complete projects that render service to specific communities in order to meet learning needs (Billig, 2002). Service Learning has been used increasingly in
university (Buchanan, Baldwin, & Rudisill, 2002; Leh, 2005) and K-12 (Skinner & Chapman, 2000) settings in large part because it is said to produce social gains such as increased self-confidence and desire to be involved in the community (Billig; Manley, Buffa, Dube & Reed, 2006; Skinner & Chapman) and academic gains such as higher grades and scores on standardized tests (Billig).

Service Learning is distinguishable from community service because its projects benefit equally students and the communities the projects serve. Service Learning is widely used in teacher education programs, where preservice teachers often mentor and tutor children and adolescents at local schools (Buchanan et al., 2002; Ryan & Callahan, 2002). Service Learning is also used to help students learn about history; in one such project, college students worked with high school students to research historically important but largely forgotten neighborhoods and take oral histories from residents (Manley et al., 2006). In each case, both communities (K-12 students) and students (pre-service teachers or other college students) benefited from the project. Pre-service teachers honed teaching techniques while helping K-12 students learn and grow (Buchanan et al.; Ryan & Callahan). History students improved their historical record taking abilities while also being able to help K-12 students understand an important slice of history (Manley et al.).

**Why a New Model?**

Designing Service Learning courses is fundamentally different from designing other courses because, in designing Service Learning courses, two sets of needs must be considered: community needs and learning needs. In order to avoid creating a Service learning course (where service dominates learning) or a service Learning course (where learning dominates service), it is important to consider both sets of needs at the same time in the design process (Tholecken, Clark, & Tschirch, 2004). For the seasoned designer, this may not be a challenge, as experienced designers do not follow instructional design models religiously (Gustafson, 2002). However, most designers of Service Learning courses are professors and teachers in various content areas, and are not seasoned instructional designers or experienced designers of Service Learning courses (Billig, 2002). When presented the challenge of designing a Service Learning course for the first time, designers of Service Learning courses may look to instructional design models for guidance. Opening up the typical instructional systems design model they would notice the first step towards designing their course is needs assessment and analysis (Gustafson & Branch, 2002; Kaufman & Thiagarajan, 1987). They would learn that needs assessment is identifying the gaps between what students are able to do, and what they should be able to do, and that needs analysis is determining which of the gaps can be addressed through instruction. They would also learn how to perform these steps. However, this newfound knowledge would not necessarily help designers of Service Learning courses design courses that balance Learning and Community needs because there is no provision in existing instructional design models for considering community service needs during needs analysis (Gustafson & Branch; Kaufman & Thiagarajan).

**Purpose of this Paper**

Instructional design (ID) models provide guidance for designing and developing instructional materials and/or units. Existing ID models do not provide sufficient guidance for designing Service Learning courses primarily because two sets of needs should drive Service Learning course design: learning and community needs. Based on our experience designing and developing Service Learning courses, we created the Collaborative and Sustainable Instructional Design model for Service Learning (CSIDSL) to help designers design and develop Service Learning courses while keeping the two complementary sets of needs (learning and community) in mind and involving community and students in the design process to promote effective communication and sustainability.

**Guiding Assumptions in Development of the Model**

Several assumptions guided our development of the CSIDSL model. Unique characteristics of the model along with the corresponding assumptions are outlined in Table 1.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Guiding Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative</td>
<td>Students who participate in a Service Learning project’s design will feel a stake and be motivated to excel in the project (Billig, 2002; Swan, 2006; Werner, Voce, Openshaw, &amp; Simons, 2002) Community stakeholders who participate in a Service Learning project’s design will be more likely to actively participate in the project (Yoder, 2006)</td>
</tr>
<tr>
<td>Sustainable</td>
<td>Service Learning courses are difficult and time-consuming to design (O’Quin, Bulot, &amp; Johnson, 2005); thus, it makes sense to develop long-term relationships with community agencies so that one term’s Service Learning project can be either continued or built upon in the following term (Yoder, 2006)</td>
</tr>
<tr>
<td>Community/Learning Needs Analysis</td>
<td>Designers must consider community and learning needs throughout the design process so as not to let service or learning dominate Service Learning (Burns, 1998; Manley et al., 2006)</td>
</tr>
<tr>
<td>Continuous improvement</td>
<td>Because Service Learning projects involve multiple stakeholders and run for many weeks, all formative evaluation and revision of instructional material cannot be accomplished before the start of the course. Therefore, formative evaluation should be performed during the term, and revision should either be performed during the term if possible, or after term end to prepare for the next term.</td>
</tr>
</tbody>
</table>
The Model

CSIDSL consists of five iterative stages:

Figure 1. CIDSL.

Designers must start at the center triangle, and then can proceed to other stages. In the following section we provide a brief description and illustration of how to perform each stage.

*Define Community Needs, Student Needs, and Constraints*

In order to design a project that meets both student and community needs, it is necessary to first know each set of needs. In this stage, designers identify student needs. Then they must specify a community agency to serve, and define its needs. For example, if a group of preservice teachers needs to learn a new reading instruction technique, an appropriate community may be kindergartners. Once an appropriate community is found, a participating agency, such as a specific kindergarten, can be identified. Shared needs (illustrated by the overlap
between student needs and community needs) are tasks or knowledge students need to learn but the community agency needs to have done.

The designer must first establish the learning needs. If the Service Learning course to be developed is a graduate course in Department X, a good starting point is to interview students in Department X to see what learning needs they have that are not being met by the current curriculum. The learning needs dictate a body of possible community agencies to serve. Because not all community agencies may be able and willing to be involved in a Service Learning project, selecting a cooperating community agency will involve communicating with the different agencies to determine a best fit. After establishing an appropriate community agency to serve, a designer must contact the agency to explore where its needs may overlap with the learning needs. Pretests and interviews can help designers identify constraints, or factors that limit designers’ ability to fully address all shared needs, such as amount of time available and students’ existing competency.

Identify Instructional Goals and Design Assessment

Instructional goals in the context of a Service Learning course are no different from instructional goals in the context of other types of instruction: they remain what the instruction should help students learn. For example, if preservice teachers needed to know how to use brand X reading instruction and brand Y algebra instruction methods, and the community (i.e., kindergartners) needed to learn to read, then the instructional goal should be based off the shared need: reading instruction. The resulting instructional goal would be that students be able to use the brand X reading instruction method to teach kindergartners to read.

Assessment should serve to measure the extent to which students meet the unit’s instructional goals. Most service-learning courses include both content (e.g., students will be able to apply X principle in Y situations) and affective (e.g., students will choose to become involved in the community in their chosen field) instructional goals. One type of assessment that can measure students’ attainment of both such goal types is guided reflection, in which students are given prompts to write reflections about their experiences both during and at the end of the project (Hatcher & Bringle, 1997; Yoder, 2006). In such experiences, students can articulate both what they accomplished and how the experience impacted their beliefs.

Shared needs dictate instructional goals. When creating instructional goals, designers should be careful to describe what learners will be able to do at the end of the Service Learning course. Designers should create measurements that assess both affective and content instructional objectives through student reflection on their experiences during the service-learning project. Such a measurement would include prompts that guide students to consider not only what they did during the unit and how well they did it, but also the impact of the project on the community (Hatcher & Bringle, 1997).

Determine Project Type, Scope, and Sustainability

The largest student participation in the design process takes place in this stage, as students work with instructors to select a motivating project. When determining project type and scope, designers should also consider sustainability, or the extent to which a Service Learning project can be sustained beyond the current semester’s course.

Instructional goals, sustainability considerations, and student interests dictate project type. Project scope is determined by constraints, such as students’ existing competencies or amount of time available. For example, the community agency may need an attractive web site, but if students in a web design class have no prior knowledge of Flash, and the unit lasts one week, then constraints dictate that a WYSIWYG web design program (e.g., Microsoft FrontPage) be used in the community service project. Given the large time investment in the creation of a Service Learning course, the sustainability of a Service Learning project in future semesters should also drive the determination of project type and scope.

Develop and Implement Support

Constraints help designers flag tasks that should be supported. For example, student communication with the partnering community agency, while essential to the success of a Service Learning project, can be difficult, especially when the agency and the school are in different communities. Project management can also be challenging for students. In order to ensure the success of the Service Learning project, designers must support these and other activities.
Designers can develop scaffolds that support students’ time management, communication with the cooperating community agency, and task performance (Wood, Bruner, & Ross, 1976). To help ensure sustainability of the Service Learning project and ease of communication among students and community agencies, many of these scaffolds can be part of a computer-based system into which students can type such information as results of research and design specifications, and to which the instructor, other members of the student team, and partnering community agencies would have access (Kyza & Edelson, 2005).

**Formative Evaluation**

At each stage, designers should conduct formative evaluation to ensure that (a) shared needs are being met, (b) service does not dominate learning (and vice versa), and (c) communication channels are optimized for the success and sustainability of the project.

Designers can conduct expert reviews of both content and design, but the traditional steps of one-on-one and small group evaluations may not work optimally with instruction developed using the CSIDSL. For example, having one or more students go through the instruction may not help determine whether service is dominated by learning, or if communication channels are optimized. So formative evaluation in this model should consist of expert reviews, and then ongoing assessment during the course of the success of design strategies. While computer-based scaffolding could not be changed easily in the middle of the semester to improve communication for that semester’s Service Learning course, the information gained could be used to improve communication during subsequent semesters.

**Conclusion**

Service Learning is one way to help students learn important content (e.g., local history and history research methods) and practice skills (e.g., teaching) in authentic contexts such as local neighborhoods (Manley et al., 2006) and K-12 schools (Buchanan et al., 2002; Ryan & Callahan, 2002). Furthermore, Service Learning has been shown to produce social benefits such as greater confidence and desire to serve (Billig, 2002; Manley et al.; Skinner & Chapman, 2000), as well as academic benefits such as higher grades and test scores (Billig). However, it has traditionally been challenging to design Service Learning projects, especially to the novice designers who often are responsible for designing such projects. Through the use of CSIDSL, designers can let the confluence of community and student needs drive instructional goals. In this ID model, both students and community agencies participate in the development of the Service Learning course, and in that way, can feel that they have a personal stake in, and be motivated to successfully complete, the project.

**References**


