Literature Review and Best Practices

Introduction

Georgia Perimeter College’s (GPC) EDGE initiative proposes to improve achievement of student learning outcomes by training instructors in targeted courses to follow established best practices as they incorporate engaged learning strategies into their teaching. Engaged learning strategies to be used in the EDGE initiative are:

- Active learning, including
  - collaborative learning and
  - problem-based learning and
- Community-based learning, including
  - service learning and
  - community-based research.

This section focuses on the review of the literature on these strategies and their best practices as well as the rationale for selection of these strategies for the EDGE intervention. In developing the EDGE initiative, GPC will utilize some of the nation’s best practices as identified in the literature. Identified best practices will be incorporated into faculty development workshops and will be posted on the EDGE website and online repository.

A sizable body of literature exists concerning engaged learning in post-secondary education. A review of the literature indicates that students who are engaged both inside and outside of the classroom are more likely to persist and achieve course learning outcomes than their colleagues who are not. In their 1995 article “From Teaching to Learning: A New Paradigm for Undergraduate Education,” Robert Barr and John Tagg describe a shift from an “instruction paradigm” to a “learning paradigm”. They wrote that

… in the learning paradigm, … a college’s purpose is not to transfer knowledge but to create environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problems. The college aims, in fact, to create a series of ever more powerful learning environments. (p. 15)

In his 2001 Education White Paper, Russ Edgerton wrote that “Learning ‘about’ things does not enable students to acquire the abilities and understanding they will need for the 21st century. We need new pedagogies of engagement that will turn out the kinds of resourceful, engaged workers and citizens that America now requires” (p. 33).

GPC is not alone in attempting to reform the traditional college classroom. National commissions on the status of American higher education have repeatedly criticized colleges for failing to actively involve students in the learning process (Association of American Colleges and Universities (AAC&U), 2007 & Hart, 2008). A successful college education should provide an environment that encourages the development of critical thinking skills, the ability to work collaboratively, and the ability to analyze and solve complex problems. Research, however, indicates that the vast majority of college faculty members do not use pedagogies that would help develop these skills, still focusing on lecturing as their primary method of instruction (Thielens, 1987). Unfortunately, this relegates students to the role of passive spectators as they receive their college education. Other scholars (McKeachie, Pintrich, Lin, & Smith, 1986;
McKeachie, 2001; Pascarella & Terenzini, 1991) have emphasized that even if students are able to maintain attention and concentration during typical class lectures, the research shows that outcomes such as development of critical thinking skills are less likely to be achieved when students listen to lectures as opposed to when they engage in more active forms of learning.

Engaged Learning in Post-Secondary Education

McKeachie’s exhaustive research into college teaching methods suggests that if colleges want students to become more steeped in meaningful learning and thinking, they need to spend more time in active, meaningful learning and thinking not just sitting passively receiving information (McKeachie, et al., 1986). Astin’s 1993 study of 27,000 students at 309 institutions indicates that active student involvement in the learning process is a factor strongly associated with retention in college classes (i.e. persistence to course and degree completion). Furthermore, Astin noted that the two most significant factors predicting students’ academic development were interaction among students and interaction between faculty and students. It is hoped that a direct intervention into GPC’s classrooms and co-curricular activities through the EDGE initiative will impact this need for more interaction.

The use of engaged learning to move students from passive receptors in the traditional lecture-based model to in-depth learners has long been rooted in educational theory (Johnson, Johnson, & Smith, 2006). Indeed, even Confucius reportedly said, “I hear and I forget; I see and I remember; I do and I understand.” Engaged, active learning draws from the early theory of constructivism, where students construct their own knowledge rather than glean information from an instructor’s knowledge (Piaget, 1976). The seminal set of “Principles for Good Practice in Undergraduate Education” (Chickering and Gamson, 1987) that began promoting engagement reform in colleges in the 1980s supports practices that:

- Encourage contact between student and faculty,
- Develop reciprocity and cooperation among students, and
- Encourage active learning.

Engaging students in the classroom provides a platform for student learning that moves away from the traditional use of lectures (Johnson, Johnson, & Smith, 2006). Definitions of what constitutes active or engaged learning vary from scholar to scholar. However, “engaged learning” is generally defined as any instructional method that engages students in the learning process. Students engage in activities such as writing, case studies, discussion, or problem-solving that promote analysis, synthesis, and evaluation of class content. Collaborative learning, problem-based learning, and the use of case methods and simulations are just some of the approaches that promote active learning (Bonwell & Eison, 1991).

In 2001 while working with the Pew Charitable Trusts, Russ Edgerton began his leading research on what became known as the “Pedagogies of Engagement” and provided a clearer focus on strategies that have proven effective in changing students’ success in the college classroom (Edgerton, 2001; Smith, Shepard, Johnson & Johnson, 2005). Indeed the AAC&U (2002) suggests that “Pedagogies of Engagement” represent “one of the most important developments in higher education -- the shift toward teaching and learning practices that engage students with complex and unsolved problems confronting their society” (p. 18).

Edgerton’s “White Paper on Education” (2001) laid out four strategies that constituted the pedagogies of engagement: problem-based learning, collaborative learning, service learning, and undergraduate research. GPC noted that the QEP topic selected by its students, staff,
faculty, administrators, and community clearly paralleled these pedagogies of engagement (substituting community-based research for undergraduate research). Research on collaborative learning, problem-based learning, service learning, and community-based research indicates that use of these pedagogies increases content mastery, encourages critical thinking, and fosters personal development (Pascarella and Terenzini, 2005). Indeed, Edgerton (2001) noted that these four engagement strategies work because they require students to be actively learning as they “do” the tasks of the discipline. He wrote, “to really understand an idea … a student must be able to carry out a variety of performances involving the idea … students know chemistry by reading and listening to lectures, but to really understand chemistry, students need to engage in the tasks that chemists perform” (p. 74). This opinion was echoed by Bonwell and Eison (1991) whose research indicated that engaged learning was superior to lectures for developing critical thinking and writing skills.

Using multiple strategies of engagement for the QEP (i.e., collaborative learning, problem-based learning, service learning, and community-based research) was important in order to craft a QEP topic specifically for GPC. Following the nomenclature established in the literature, GPC classifies collaborative learning and problem-based learning as “active learning,” and service learning and community-based research as “community-based learning.” GPC has an extremely diverse population in terms of race, ethnicity, age, gender, and prior experience, and offering multiple strategies of engagement is essential to meet the needs of that diverse student body. The selected strategies of engagement will allow GPC’s students to participate in meaningful learning activities and will cause them to think differently about what they are experiencing and learning.

**Active Learning**

Active learning is an umbrella term coined by Bonwell and Eison (1991) that refers to a spectrum of pedagogical approaches that “engage students in activities such as reading, writing, discussion, or problem solving that promote analysis, synthesis, and evaluation of class content” (Svinicki and McKeachie, 2011, p. 197). GPC selected two active learning pedagogies for its QEP: collaborative learning and problem-based learning.

**Collaborative Learning**

“Collaborative learning” is defined as any instructional method in which students work toward common educational goals in pairs or small groups (Barkley, Cross, & Major, 2005). Collaborative activities in the classroom are experiential processes that take students out of the passive role of listeners and put them into an inquiry mode as participants in collaborative learning experiences. Faculty members abandon their role as lecturers to become facilitators to groups of students working together.

Collaborative learning has been shown to enhance critical thinking skills. Evidence indicates that shared learning gives students opportunities to engage in discussion and take responsibility for their learning, which moves students toward becoming more critical thinkers. (Totten, Sills, Digby & Russ, 1991). In addition, there is persuasive evidence that collaborative teams achieve higher levels of thought and retain information longer than students learning individually (Johnson and Johnson, 1986). Researchers have noted, however, that when constructing collaborative learning activities in the classroom, there must be both group goals and individual accountability. This balancing of elements will be woven into all EDGE collaborative efforts. EDGE faculty development will include collaborative learning strategies such as (but not limited
to case studies, dyadic essays, group reports, guided reciprocal peer questioning, online collaboration, and position papers.

Meta-analyses have consistently shown a strong positive relationship between collaborative learning and learning outcomes. In a review of more than 90 years of research, Johnson, Johnson, and Smith (1998) found that working together collaboratively increased learning outcomes compared to individual work on all measures studied. Prince’s (2004) meta-analysis of collaborative learning also showed significant effects of collaborative learning on learning outcomes. The literature is consistent in showing significant increases in academic achievement, student attitudes, and student retention in classrooms employing pedagogies of engagement.

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<tr>
<td><strong>General Strategies</strong></td>
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<tr>
<td>1. Plan for each stage of group work.</td>
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<td>2. Carefully explain to your class how the groups will operate and how students will be graded.</td>
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<td>3. Give students the skills they need to succeed in groups.</td>
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<td>4. Consider written contracts.</td>
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<td><strong>Designing Group Work</strong></td>
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<td>1. Create group tasks that require interdependence.</td>
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<td>2. Make the group work relevant.</td>
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<td>3. Create assignments that fit students' skills and abilities.</td>
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<td>4. Assign group tasks that allow for a fair division of labor.</td>
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<td>5. Set up “competitions” among groups.</td>
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<td>6. Consider offering group test taking.</td>
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<td><strong>Organizing Learning Groups</strong></td>
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<td>1. Decide how the groups will be formed.</td>
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<td>2. Be conscious of group size.</td>
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<td>3. Keep groups together.</td>
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<td>4. Help groups plan how to proceed.</td>
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<td>5. Regularly check in with the groups.</td>
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<td>6. Provide mechanisms for groups to deal with uncooperative members.</td>
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<td><strong>Evaluating Group Work</strong></td>
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<td>1. Ensure that individual student performance is assessed and that the groups know how their members are doing.</td>
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<td>2. Give students an opportunity to evaluate the effectiveness of their group.</td>
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<td>3. Decide how to grade members of the group.</td>
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Sample Resources for Collaborative Learning

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
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<tbody>
<tr>
<td>Texas Collaborative for Teaching Excellence,</td>
<td>The Texas Collaborative for Teaching has an extensive repository of online learning modules including an excellent collaborative learning workshop, which provides an overview of both the research and specific strategies proven to work in increasing student learning through collaborative learning.</td>
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<tr>
<td>Collaborative Learning</td>
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<tr>
<td>Wisconsin Center for Education and Research</td>
<td>This site focuses on the &quot;practical&quot; side of implementing collaborative learning including course structure and objectives, creating goals, and incorporating student goals for student buy in, evaluation issues, creating groups, roles within groups, the new roles students and instructors face, and ideas on group dynamics.</td>
</tr>
<tr>
<td>National Institute for Science Education</td>
<td>The National Institute for Science Education's website includes a clear, step-by-step guide to preparing and facilitating collaborative learning activities. The site incorporates research and recommendations from experts in the field.</td>
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<tr>
<td>The Berkeley Collaborative</td>
<td>The University of California at Berkeley offers an extensive teaching guide with over 1000 tips on active and collaborative learning.</td>
</tr>
<tr>
<td>Center for Research on Teaching and Learning,</td>
<td>Containing multiple best practices for teachers who want to employ collaborative learning strategies, the Center for Research on Teaching and Learning at the University of Michigan provides effective and practical advice for new collaborative learning practitioners.</td>
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<tr>
<td>University of Michigan</td>
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Problem-Based Learning

Just as collaborative learning provides a natural environment to promote interpersonal skills, Problem-Based Learning (PBL) provides a natural environment for developing problem-solving and life-long learning skills (Prince, 2004). Every teacher asks, “What can I do to get my students to think critically and become problem solvers?” A variety of teaching methods have been developed over the years, including PBL, to address this question. Problem-based learning is defined as

… a curriculum development and instructional system that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem solvers confronted with what mirrors real-world problems. (Finkle & Torp, 1995, p.1)

Support for PBL is tied to the acknowledgement that students retain minimal information obtained from traditional lecture-based teaching (Bok, 1986) and have difficulty transferring knowledge to new experiences (Schmidt, 1993). According to Schmidt (1993), PBL provides an
environment in which students can draw upon “prior knowledge, learn within the real-world context, and reinforce the knowledge through independent and small group work” (p. 427).

PBL is commonly defined as an instructional method that challenges students to "learn to learn," working collaboratively in groups to seek solutions to real world problems. PBL prepares students to think critically and analytically and to find and use appropriate learning resources (Duch, 1995). The PBL movement was pioneered in the science and medicine fields in the late 60s and was later adapted to undergraduate instruction (Boud & Feletti, 1991; Duch, Groh, & Allen, 2001; Amador et al., 2006). Faculty members were drawn to PBL after witnessing the failures of traditional lecture methods (Wingspread, 1994; Boyer, 1998). PBL has become a favorite of faculty members who want to engage students in constructing knowledge in a group environment that helps them analyze problems that they will encounter in their future work world. Research indicates that PBL engages students, develops higher-order thinking skills, improves knowledge retention, and enhances motivation (Dochy, Segers, Van den Bossche & Gijbels, 2003; Savery, 2006).

Problem-based learning can be adapted to any discipline and can be combined with lecture to form hybrid models of teaching. Harvard University expanded upon these experiences by integrating PBL problems with lecture, discussion, and experiential sessions (Tosteson, Adelstein & Carver, 1994). Students can improve their problem-solving skills, research skills, and social skills through PBL instruction. Research indicates that with PBL, students gain improvement in skills such as self-direction, critical thinking and reasoning, data gathering, and self-evaluation (Derry, Hmelo-Silver, Nagarajan, Chernobilsky, & Beitzel, 2006; Dochy, Segers, Van den Bossche, & Gijbels, 2003). A meta-analytic review of 43 empirical studies on PBL also found a substantial positive influence of PBL on the student skills (knowledge application) and a weaker, though still positive, effect on knowledge acquisition (Dochy, Segers, Van den Bossche, & Gijbels, 2003). This same review suggested a set of best practices for PBL, which is included in the following table.

<table>
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<tr>
<th>A Best Practice Model for Problem-based Learning (from Dochy, Segers, Van den Bossche, &amp; Gijbels, 2003)</th>
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<tr>
<td>1. Identify course objectives and write a problem(s) for each of the objectives. PBL is based on “ill structured” problems – those that may have multiple “correct” answers. Determine the weight of the assignment within the context of the course grade.</td>
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<td>2. Determine what resources students will need and what resources are available to the student to solve these problems. Consider planning a library orientation for students in collaboration with librarians.</td>
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<td>3. Determine how students will present their answers and provide a rubric that explains how the project will be graded.</td>
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<td>4. Prepare students for a different class culture. Inform students about PBL, how the class will be conducted, what they are expected to do, and how they will be graded.</td>
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<td>5. Model problem-solving techniques for students and help students find the resources they need rather than giving them the answers.</td>
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<td>6. Give students class time to work as a group.</td>
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<td>7. Provide feedback about the quality and completeness of problem’s solution, keeping in mind that the thinking and rationale that went into the solution are as important as the solution itself.</td>
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The EDGE initiative attempts to connect what is learned in the classroom to the real world and assumes that this connection occurs naturally when PBL is used in the classroom. PBL allows students to participate in relevant learning experiences, working with the following learning materials (Prince, 2004):

1. The problem situation,
2. A list of objectives that the student is expected to master while working on the problem,
3. A reference list of materials that pertain to the basic objectives, and
4. Questions that focus on important concepts and applications of the knowledge base.

In classes using PBL, students work on problems in project teams and are evaluated in multiple ways by instructors, peers, and themselves using questionnaires, interviews, observations, and other assessment methods.

Ultimately, based on the literature (Dochy, Segers, Van den Bossche, & Gilbels, 2003; Savery, 2006; Prince 2004; Tosteson, Adelstein & Carver, 1994), PBL benefits students in the following ways:

- Increases motivation to learn
- Develops critical thinking, writing, and communication skills
- Enhances retention of information
- Provides a model for lifelong learning
- Demonstrates the power of working cooperatively

### Sample Resources for Problem-Based Learning

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<thead>
<tr>
<th>Resource</th>
<th>Website</th>
<th>Notes</th>
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<tr>
<td>Institute for Transforming Undergraduate Education, Problem-Based Learning Clearinghouse at the University of Delaware</td>
<td><a href="http://www.udel.edu/inst/">http://www.udel.edu/inst/</a></td>
<td>The PBL Clearinghouse, a massive collection of problems and articles to assist educators in using problem-based learning, is peer-reviewed and arranged by discipline and content. Teaching notes and supplemental materials accompany each problem, providing insights and strategies that are innovative and classroom-tested. Access to the Clearinghouse collection is limited to educators who register via an online application, but it is free and carries no obligation.</td>
</tr>
<tr>
<td>The Center for Problem-Based Learning (now Center for Teaching, Learning, and Scholarship) at Samford University</td>
<td><a href="http://www.samford.edu/ctls/archives.aspx?id=2147484112">http://www.samford.edu/ctls/archives.aspx?id=2147484112</a></td>
<td>The Center for Problem-Based Learning (PBL) and corresponding website were established in 1998 in conjunction with two grants from the Pew Charitable Trusts. Since that time, Samford has taken on the challenge not only to incorporate PBL into various undergraduate programs, but also to document best models of PBL practice in course portfolios. The goal of the associated web pages is to provide administrators, faculty, students, and parents with detailed information on the components, implementation, assessment and documentation of PBL. Web pages are specifically separated into PBL background, process, evaluation, and resources. These pages also contain guides to relevant workshops and conferences, materials, and links to other institutions that are using PBL.</td>
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Community-Based Learning

For the purposes of the EDGE initiative, the term “community-based learning” includes two high-complex, experiential pedagogies: service learning and community-based research. Svinicki and McKeachie (2011) described experiential learning as the process of making meaning from direct experience, and they identified several experientially-based pedagogies: the case method; problem-based learning; games, simulations, role playing, and field experiences (i.e., research studies, internships, service learning, community based research). Svinicki and McKeachie argued, however, that some of the strategies “involve a degree of artificiality since they don’t take place in the real world” (p. 210). They further argued that students who experienced real-world problem solving within the context of the community got the greatest benefit from experiential learning and that service learning and community-based research provided first-hand, real-world experience combined with problem solving without the artificiality of some of the other strategies.

Holland and Robinson (2008) remarked that since the inception of the community college in 1901, community colleges have integrated experiential activities into course work. Regarding the evolution of community-based learning in the community college, they stated, “the remarkable growth in establishing new community colleges in the 1960s and 1970s paralleled an increase in community-based learning. But the majority of service learning programs, more than 80% among community colleges, for example, began in 1990 or later” (p. 20).

In his article “Creating the New American College,” Boyer (1994) argued that colleges and universities have moved away from providing service to their communities. To remedy this, he suggested that the “New American College would organize cross-disciplinary institutes around pressing social issues. Undergraduates at the college would participate in field projects, relating ideas to real life” (p. A48). Boyer stated that ultimately “the New American College, as a connected institution, would be committed to improving, in a very intentional way, the human condition” (p. A48). While Boyer did not specifically mention forms of community-based learning, certainly community-based learning helps to fulfill Boyer’s vision of the new American College.

The Theoretical Framework for Community-Based Learning

Fundamental to the theoretical development of community-based learning are the writings and research of John Dewey and David Kolb. Dewey’s philosophy provides a theoretical foundation for experiential education, and Kolb provides a viable, replicable model to ensure academic rigor and effectiveness.

John Dewey’s Educational Philosophy

John Dewey’s writings and philosophy of education are often cited in service learning research; his philosophy of education and the importance of experience in education form the foundation of service learning. According to Cummings (2000), Dewey believed that “education must center on society’s most pressing problems, particularly the reconstruction of democratic community, that it engage students in community service and prepare them for lifelong commitment to civic involvement and social reconstruction” (p. 97). Dewey’s beliefs ultimately informed the core practices and philosophy of service learning. Furthermore, Eyler (2000) stated, “they [Dewey’s beliefs] create social arrangements that lead to motivation and a sense of agency and serve as a strength of service learning” (p. 12).
According to Saltmarsh (1996), “Dewey’s writings reveal five specific areas of contribution to service learning:

1. Linking education to experience,
2. Democratic community,
3. Social service,
4. Reflective inquiry, and
5. Education for social transformation” (p. 13).

Later in his review of the works of Dewey, Saltmarsh stated, “service, in other words, is defined as one’s place of privilege in society and a relationship to those less privileged defined by a sense of justice” (p. 17). Commenting on the importance of reflection in service learning, Saltmarsh included this quotation of Dewey’s: “When we reflect upon an experience instead of just having it, we inevitably distinguish between our own attitude and the objects toward which we sustain the attitude” (p. 18).

In their 1994 seminal article “The Theoretical Roots of Service-Learning in John Dewey: Toward a Theory of Service-Learning,” Giles and Eyler argued for the development of service learning theory to act as a guide for the practice. Then, in an effort to respond to their own call for theory, Giles and Eyler presented two themes based on Dewey’s work: Dewey’s relevance to learning in service learning and Dewey’s relevance to service in service learning. Giles and Eyler (1994) cited Dewey’s four criteria necessary for experiential learning to be educative. Learning “projects,” according to Dewey (1933),

1. Must generate interest,
2. Must be worthwhile intrinsically,
3. Must present problems that awaken new curiosity, and
4. Must cover a considerable time span and be capable of fostering development over time (p. 217).

Regarding experience, Giles and Eyler (1994) cited Dewey’s 1938 book Experience and Education:

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. Experience and education cannot be directly equated to each other. For some experiences are mis-educative. Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience. An experience may be such as to engender callousness; it may produce lack of sensitivity and responsiveness. Then the possibilities of having richer experience in the future are restricted. (p. 25)

A chronological review of Dewey’s writings reveals a wide range of support for experiential learning and for many of the aspects of service learning. To link education to experience, Dewey (1897) stated, “I believe, finally, that education must be conceived as a continuing reconstruction of experience; that the process and the goal of education are one and the same” (p. 13). Commenting on the necessity of reflection and value of experience, Dewey (1916) said, “When an activity is continued into the undergoing of consequences, when the change made by action is reflection back into change made in us, the mere flux is loaded with significance. We learn something” (p. 139); he continued: “Two conclusions important for education follow: (1) Experience is an active-passive affair; it is not primarily cognitive. But (2) the measure of value
of an experience lies in the perception of relationships or continuities to which it leads up” (p. 140). In 1938, Dewey reconfirmed the connection between experience and learning, cementing the relationship: “I take it that the fundamental unity of the newer philosophy is found in the idea that there is an intimate and necessary relationship between the processes of actual experience and education” (p. 7).

**David Kolb’s Cycle of Experiential Learning**

David Kolb (1984) defined learning as “the process whereby knowledge is created through transformation of experience” (p. 38). Describing the theoretical foundation of David Kolb’s work, Atkinson and Murrell (1988) stated:

Kolb primarily built on the work of Dewey (1938), who recognized the importance of experience in the process of learning; Lewin (1951), who emphasized active participatory learning; and Piaget (1970), who conceived of intelligence as largely a result of the interaction of the individual with the environment. (p. 274 – 275)

Kolb envisioned a four-step cycle (see the figure below) comprised of concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Atkinson and Murrell (1988) offered this description of the cycle:

A learner moves through the cycle by first having an immediate experience (CE), which becomes the basis for observations and reflections (RO). These observations and reflections are assimilated and distilled into a concept or theory (AC), even if highly informal, from which new implications for action can be generated. The newly developed ideas can then be tested actively (AE) and can serve as guides for creating new experiences. The cycle begins anew, but at a higher level of complexity. (p. 275)

According to Kolb (1984), in order for learning to occur, each of the elements of his learning cycle must be present since experience alone is not enough to cause learning and since reflection cannot cause learning without some experience to reflect upon.

**Kolb’s Learning Cycle** (Cress, Collier, & Reitenauer, 2005)
Kolb’s model relates directly to community-based learning. Community-based learning experiences include a community service experience (concrete experience), reflection (reflective observation), connecting new ideas with existing ideas (abstract conceptualization), and applying the knowledge gained (active experimentation). Petkus (2000) stated that there are three general implications of Kolb’s model for community-based learning:

Most important, the learning experience should involve all stages of the cycle. Second, Kolb’s model highlights the general importance of reflection in the learning process. Third, the cyclical nature of Kolb’s model facilitates the integration of the direct learning experience and the abstract generalization, with reflection as the linking function. (p. 65)

**Service Learning**

At its core, service learning is a teaching methodology/pedagogy that allows students and faculty members to draw connections between service hours provided to non-profit, community-based organizations and course objectives. The term “service learning” dates to ca.1967 and evolved out of the writing of Robert Sigmon and William Ramsey. For twenty-five years after the term was created, most writing was devoted to agreeing upon a common definition of the term and to collecting a list of best practices (Giles & Eyler, 1994). Suggesting service-learning as a revolutionary paradigm shift in the field of pedagogy, Zlotkowski (1998) commented, “Although I do not believe there exists any single strategy capable of bringing about academic renewal, I do believe the educational paradigm latent in what has come to be called ‘service-learning’… may represent a key to our moving forward” (p. 3).

Many definitions for the term “service learning” exist (Jacoby, 1996); however, all definitions share the following key components: classroom instruction, community service, reflection, and civic engagement. Jacoby (1996) defined service learning as “a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service learning” (p. 5).

Prentice and Garcia (2000) offered this description of the pedagogy: “Service learning is based on a reciprocal relationship in which the service reinforces and strengthens the learning and the learning reinforces and strengthens the service” (p. 20). According to Furco (1996), on a continuum with volunteerism on one side and learning on the other, service learning falls directly in the center. Clarified by Robinson (2000), “The student serves while learning, and learns while serving” (p. 8). The American Association of Community Colleges (Robinson, 2001) defined service learning as a pedagogy that “combines community service with classroom instruction, focusing on critical, reflective thinking as well as personal and civic responsibility” (p. 1).

**Benefits of Service Learning**

In community colleges, the 1990s marked a steady increase in the popularity of service learning among students, faculty members, college administrators, and community leaders (Holland and Robinson, 2008). As a result, studies designed to evaluate the effectiveness of service learning began to appear in the literature in the mid to late 1990s. This literature indicated that when best practices are followed (see table below) service learning results in significant benefits to students, to faculty members, and to the institution.

Astin, Vogelgesang, Ikeda, and Yee (2000) concluded that “service participation shows significant positive effects” on a variety of student learning outcomes measures including GPA,
leadership, self-efficacy, critical thinking, and writing. Research indicates that service learning has a positive effect on students’ academic learning (Astin & Sax, 1998; Cohen & Kinsey, 1994; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Eyler & Giles, 1999), application of knowledge to the real world (Cohen & Kinsey, 1994; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Eyler & Giles, 1999; Kendrick, 1996; Markus, Howard, & King, 1993), personal development (Astin & Sax, 1998), interpersonal development (Astin & Sax, 1998; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Eyler & Giles, 1999), sense of civic engagement and civic responsibility (Astin & Sax, 1998; Batchelder & Root, 1994; Driscoll, Holland, Gelmon, & Kerrigan, 1996), and commitment to service (Astin & Sax, 1998; Driscoll, Holland, Gelmon, & Kerrigan, 1996).

Ten Principles of Good Practice in Service Learning

Howard, 1993 & 2001

1. **Academic credit is for learning, not for service.** Students earn course credit by demonstrating they have learned course content and skills. Reflection is the graded component.

2. **Do not compromise academic rigor.** The service learning assignment should replace an existing requirement (or be a new requirement) and should not lower academic expectations. Service learning often enhances course rigor.

3. **Set learning goals for students.** It is especially necessary and advantageous to establish clear learning objectives in service learning courses. The addition of the community as a learning context multiplies the learning possibilities. Deliberate planning of course academic and civic learning objectives is necessary for students to prioritize their learning and to leverage the bounty of learning opportunities offered by service learning experiences.

4. **Establish criteria for the selection of community service placements.** Placements must relate to the content of the course. The duration of service must be sufficient to enable the fulfillment of learning goals. Activities must have the potential to stimulate course-relevant learning. Community projects must meet real, community-identified needs.

5. **Provide educationally sound mechanisms to harvest the community learning.** Learning strategies must be employed that support learning from service experiences and enable its use toward meeting course learning objectives. Interventions that promote critical reflection, analysis, and application of service experiences enable learning.

6. **Prepare students for learning from the community.** Most students lack experience extracting and creating meaning from experience, let alone merging it with other academic and civic course learning strategies. Instructors can support students’ learning through service by providing opportunities to acquire skills for gleaning the learning from the service context (e.g., participant-observer skills), and/or examples of how to successfully complete assignments (e.g., making available exemplary papers and reflection journals from previous courses to current students).

7. **Minimize the distinction between the students’ community learning role and classroom learning role.** Classrooms and communities require students to assume different learner roles. If students are passive learners in the classroom and active learners in the community, the contrast may challenge and even impede student learning. The solution is to reshape the traditional classroom to value students as active learners.

8. **Rethink the faculty instructional role.** Commensurate with the preceding principle’s recommendation for active student learning; this principle advocates that service learning instructors also rethink their roles. An instructor role that would be most compatible with an active student role shifts away from a singular reliance on transmission of knowledge and toward mixed pedagogical methods that include learning facilitation and guidance.
9. **Be prepared for variation in, and some loss of control with, student learning outcomes.** In traditional courses, the learning strategies are constant for all enrolled students and are under the watchful eye of the faculty member. In service learning courses, given variability in service experiences and their influential role in student learning, one can anticipate greater heterogeneity in learning outcomes and compromises to faculty control. Even when students are exposed to the same presentations and the same readings, instructors can expect that classroom discussions will be less predictable and the content of student papers/projects less homogeneous than in courses without a service component.

10. **Maximize the community responsibility orientation of the course.** Designing classroom norms and learning strategies that not only enhance academic learning but also encourage civic learning are essential to purposeful civic learning. While most traditional courses are organized for private learning that advances the individual student, service learning instructors should consider employing learning strategies that will complement and reinforce the civic lessons from the community experience.

Research suggests (Batchelder & Root, 1994; Kendrick, 1996; Miller, 1994; Parker-Gwin & Mabry, 1998) that student participation in service learning has an impact on cognitive development, problem analysis, critical thinking, and demonstrated complexity of understanding. In their longitudinal study, Bernacki and Bernt (2007) found that students who participated in service learning courses were more likely to participate in other campus activities such as alternative spring breaks, advocacy work, and leadership retreats.

Faculty members who used service learning indicated satisfaction with the quality of student learning (Cohen & Kinsey, 1994) and a commitment to research (Driscoll, Holland, Gelmon, & Kerrigan, 1996). They also reported feelings of invigoration and a renewed commitment to teaching and developing relationships with students (Eyler & Giles, 1999). Both faculty members and students indicated that participation in a course that used service learning resulted in a positive impact on a student’s academic performance (Astin & Sax, 1998; Driscoll, Holland, Gelmon, & Kerrigan, 1996; Eyler & Giles, 1999).

For colleges, service learning has been linked to increased student retention (Astin & Sax, 1998) and enhanced community relationships (Driscoll, Holland, Gelmon, & Kerrigan, 1996). Community-based organizations, satisfied with student participation (Cohen & Kinsey, 1994; Driscoll, Holland, Gelmon, & Kerrigan, 1996), indicate that service learning students help fulfill real community needs (Cohen & Kinsey, 1994; Driscoll, Holland, Gelmon, & Kerrigan, 1996) and report enhanced college relations (Driscoll, Holland, Gelmon, & Kerrigan, 1996).

**Community-Based Research**

In an effort to combine the best attributes of both service learning and undergraduate research, community-based research emerged out of other participatory research models such as action research, participatory action research, collaborative action research, and community-based inquiry (Ansley & Gaventa, 1997; Creswell, 2002). Paul (2006) defined community-based research as a pedagogy designed to engage “students in a collaborative partnership to work on real research that will make a difference for local communities.” She further stated, “Students are socialized as public scholars, learning actively about the research process and about how empirical inquiry can be applied to real social issues.” Savan, Flicker, Kolenda, & Mildenberger (2009) used a definition based upon that developed by the Loka Institute, which states that community-based research is “conducted by, for or with the participation of community
members…community based research aims not merely to advance understanding, but also to ensure that knowledge contributes to making a concrete and constructive difference in the world" (p. 784).

Strand, Murullo, Curforth, Stoecker, & Donohue (2003) defined community-based research (CBR) as, "collaborative, change-oriented research that engages faculty members, students, and community members in projects that address a community-identified need" (p. 5). Further, they indicate three central features of the pedagogy:

1. CBR is a collaborative enterprise between academic researchers (professors and students) and community members;
2. CBR seeks to democratize knowledge by validating multiple sources of knowledge and promoting the use of multiple methods of discovery and dissemination; and
3. CBR has as its goal social action for the purpose of achieving social change and social justice. (Strand, Murullo, Curforth, Stoecker, & Donohue, 2003, p. 6)

Porpora (1999) argued that community-based research might be considered “a higher stage of service-learning in that it combines service, teaching, and research” (p. 121), and Willis, Peresie, Waldref, & Stockmann (2003) described community based-research as “an intensive form of service learning” (p. 36). Stoecker (2001) wrote, “In the most concrete sense, CBR involves students and faculty working with a community organization on a research project serving the organization’s goals” (p. 35).

Benefits of Community-Based Research

Similar to service learning, community-based research also benefits the college, students, faculty, and community when best practices are followed (see table below). Several studies (Greenwood & Levin, 1998; Reardon, 1995; Cordes, 1998; Benson, Harkavy, & Puckett, 1996; Strand, 2000) suggest that community-based research benefits the college. First, community-based research creates the possibility for cross-department/cross-discipline collaboration (Greenwood & Levin, 1998; Reardon, 1995). Students will benefit from a more cohesive institution, and they also have the opportunity to engage in hands-on learning experiences (Stoecker, 2001; Strand, 2000) that can be very meaningful (Cordes, 1998). Furthermore, students who participate in community-based research projects gain valuable experience using research skills (Benson, Harkavy, & Puckett, 1996; Reardon, 1995; Strand, 2000).

Faculty members who have integrated community-based research into their courses believe that the pedagogy greatly enriches students' research skills and academic achievement (Strand, 2000). Four areas in which community-based research positively impacts students include “enrichment of traditional coursework, increased sense of empowerment, greater understanding of social problems, and integration of academics and service” (Willis, Peresie, Waldref, and Stockmann, 2003, p. 40). Strand (2000) also identified relational skills that students develop such as tact, perseverance, and tolerance for ambiguity. These skills that students develop are desirable to employers who prefer to hire “graduates with ‘real-world’ experience behind their degrees” (Chopyak & Levesque, 2002, p. 204). The fact that students are working and providing research for real people encourages them to produce top quality work, making the learning experience more meaningful (Strand, 2000).

Finally, the community itself benefits through this kind of research, primarily because the community is provided with research results that are both applicable and useful (Sclove, Scammell, & Holland, 1998). According to Ansley and Gaventa (1997), both the institution and
the community gain social capital. Through CBR work, each develops a network of resources and knowledge that provides advantages for both. It is also important that those who are dealing with the problem are allowed to help seek solutions to these problems. As stated by a community member who participated in a community-based research project, "We have to involve the people whose lives are involved" (Cordes, 1998, p. A39).

**Best Practices in Community-Based Research (Strand, Marullo, Cutforth, Stoecker, and Donohue, 2003).**

**Community Partnerships**

1. Successful community partnerships are those where partners (1) share a world view, (2) agree about goals and strategies, and (3) have mutual trust and mutual respect.

2. Community partners (1) share power, (2) communicate clearly and listen carefully, (3) understand and empathize with each other’s circumstances, and (4) remain flexible.

3. Successful partnerships are those in which (1) partners’ primary interests or needs are met, (2) partners’ organizational capacities are enhanced, and (3) partners adopt shared, long-range social change perspectives.

**Teaching and Learning**

4. Focus on collective/collaborative learning that de-emphasizes hierarchy, including authority differences between teacher and student.

5. Demystify conventional knowledge, including the notion that objectivity is impossible, that knowledge in not neutral, and that people’s lived experiences are valid sources of information.

6. Focus on teaching for social change.

**Research Design**

7. Develop a research design in which everyone participates in discussion and decisions at every stage of research.

**Summary of the Review of the Literature**

Four key interventions were identified through the review of the literature as strategies for improving achievement of student learning outcomes and for improving overall student engagement: collaborative learning, problem-based learning, service learning, and community-based research.

Best practices for each of four interventions were identified from the review of the literature. These best practices will be incorporated into the design of faculty development workshops that will be offered as part of the EDGE initiative. Evident from the review of the literature is the increasing level of complexity exhibited by these four interventions. If viewed on a complexity continuum, collaborative learning is at one extreme (complex) and community-based research because it combines attributes of the other three interventions is at the other end (most complex).
Also evident from the review of the literature is that as the complexity of the pedagogy increases, faculty resistance to its implementation also increases (McKeachie, 2001). The literature suggests that appropriate faculty support services be provided to mitigate such resistance (Abes, Jackson, & Jones, 2002). At GPC, barriers to implementation will be reduced by providing faculty members with appropriate support for their use of these complex pedagogies in the form of training and technical assistance and project coordination. Training and technical assistance will be provided by the Center for Teaching and Learning, EDGE Initiative staff members, and faculty member experts. Project coordination will be provided by the community-engaged learning coordinator and faculty member experts.

Researchers (Kuh, 2008; Brownell & Swaner, 2010) have endorsed the interventions selected for the EDGE initiative, naming them and others as High-Impact Educational Practices. Kuh (2008) offers six reasons why these practices are particularly effective with students:

1. These practices typically demand that students devote considerable time and effort to purposeful tasks; most require daily decisions that deepen students’ investment in the activity as well as their commitment to their academic program and the college. (p. 13)
2. The nature of these high-impact activities puts students in circumstances that essentially demand they interact with faculty and peers about substantive matters, typically over extended periods of time. (p. 13)
3. Participating in one of more of these activities increases the likelihood that students will experience diversity through contact with people who are different from themselves. (p. 14)
4. Even though the structures and settings of high-impact activities differ, students typically get frequent feedback about their performance in every one. (p. 17)
5. Participation in these activities provides opportunities for students to see how what they are learning works in different settings, on and off campus. (p. 17)
6. Doing one or more of these activities in the context of a coherent, academically challenging curriculum that appropriately infuses opportunities for active, collaborative learning increases the odds that students will be prepared to “just connect.” (p. 17)

Brownell & Swaner (2010) suggest that weaving two or more high-impact practices together or combining high impact practices with interdisciplinary threads will amplify the positive effect of the learning experience. Brownell & Swaner (2010) write, “imagine what the student experience would be like if all first-year students at your institution took a small (twenty-five students or fewer) writing- or inquiry-intensive seminar with common readings and a service learning component” (p. x). As part of the EDGE initiative, faculty members will be encouraged to intensify the complexity of their engaged pedagogies by combining interventions, moving along the complexity continuum, and / or incorporating interdisciplinary threads or common intellectual experiences into their courses. GPC faculty members have at their disposal at least two existing interdisciplinary threads and two common intellectual experiences:

Interdisciplinary Threads:
1. The Democracy Commitment (TDC): TDC is a national movement designed to provide a platform for the development and expansion of civic learning and democratic process. GPC’s TDC project aims to incorporate themes of civic engagement and democratic participation across the curriculum.
2. Sustainability: Issues germane to environmental sustainability, environmental justice, food security, and food quality are examined through multi-disciplinary lenses. Existing gardens located on the Newton and Decatur Campuses are included.

Common Intellectual Experiences:
3. GPC Reads: Each semester, a college-wide, common read is selected and programming is created to provide contextual support.
4. Service Events: Each year, four large-scale service events occur in conjunction with 9/11 Day of Service and Remembrance, Make a Difference Day, MLK Day of Service, and Global Youth Service Day.

It should also be noted that faculty members reluctant to participate in the EDGE initiative can integrate one of the above threads/experiences with minimal effort as an easy first step toward integrating more complex activities.

Finally, a considerable body of research supports the efficacy of the four interventions selected for implementation as part of GPC’s EDGE initiative. Analysis of the literature indicates several key benefits to students and faculty that are common among the interventions:

Benefits to students:
- Relating course knowledge to real-world situations,
- Developing greater critical thinking skills,
- Developing skills in working cooperatively,
- Developing stronger relationships with both faculty members and peers, and
- Developing leadership and communication skills.

Benefits to faculty:
- Renewed commitment to teaching,
- Stronger relationships with students in the classroom,
- Satisfaction that student learning outcomes are increased,
- Opportunities to participate in ongoing faculty development and development of stronger teaching skills, and
- Opportunities to network with fellow faculty and share successful experiences and practices.
Literature Cited


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