

# Letter Writing as a Strategy for Problem Based Learning

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Are your students able to articulate their ideas? Are they good problem solvers? Can they relate their experiences to problems presented in class? These were some of the questions that guided the search for a motivating way to promote student communication skills and improve problem solving. The "find" was the incorporation of letter writing in problem-based learning. The purpose of this article is to discuss problem-based learning (PBL) and how letter writing can be used as a PBL strategy.

Wrestling with ideas and trying to put them into words are absolutely critical if students are to become better problem solvers (Perry et al, 1993; Stern, 1993). Letter writing, whether traditional or electronic, can be used to help students become more thoughtful and analytical problem solvers by giving them practice in articulating their ideas with respect to problems and how to solve them. Assigning letter writing on real issues to real (or fictitious) people such as policy makers, authors, scientists, newspaper or journal editors, etc. allows instructors to follow recommended principles for facilitating problem based learning.

Problem-based learning is real-life questioning for real-life learning. The goal of PBL is to transfer learning to the world outside the classroom. The learner uses previously mastered information and/or skills to reach resolution of a challenging, real-life problem and, through this process, arrives at a higher level of understanding. (Heinich, et al, 1996). Through the use of PBL, instructors encourage students to generalize, apply, and transfer what they know to problems in novel situations inside and outside the classroom.

The general, five-step problem-solving model -- identify the problem, represent the problem, select the strategy, implement the strategy, evaluate the results -- is one model employed in PBL. Within the framework of this general model, teachers can facilitate problem-based learning by following these five principles (Kauchak and Eggen, 1998):

1. Present problems in meaningful contexts. Placing problems in concrete contexts improves problem-solving ability by helping students see how problems relate to their experiences (Mayer, 1992). Relevance is a major factor in motivation to learn.
2. Present a variety of examples. Examples are essential to learning concepts, generalizations, principles, and problem solving (Reed, et al, 1994). Expertise in problem-solving is developed by experience gained through practice with diverse examples.
3. Discuss problems in detail. One of the most common

weaknesses in problem solving is that students don't get enough practice in articulating their ideas. Writing in detail about problems increases understanding (Perry, et al, 1993).

4. Provide scaffolding for beginning problem solvers. Instructional scaffolding is support teachers provide that helps learners develop a skill. When appropriate instructor support is provided as beginners first use a problem solving model, students require less assistance from the teacher, require less time to solve problems, and develop more accurate solutions (Carroll, 1994).

5. Provide practice in complex problem solving. Real-world problems often are more complex and require more work to be solved. Experience in solving complex, real-life problems is important for developing problem-solving expertise and positive attitudes toward content (Cognition and Technology Group at Vanderbilt, 1992).

Letter writing is an excellent (and simple) teaching tool to follow the above principles for facilitating problem-based learning. This strategy can present problems in meaningful contexts by having students write to city leaders or newspaper editors recommending solutions to environmental or other local problems. It can present a variety of examples by having students write letters as responses to various case studies. It can require students to discuss problems in detail by having groups come to consensus on the contents of letters reacting to problems/solutions given in state of the union/state addresses, professional journal articles, or scientific reports. Letter writing can provide scaffolding for beginning problem solvers by giving concrete samples of student thinking for feedback from the instructor and for students to self-analyze and revise. The strategy also can provide practice in complex problem solving by writing about solutions to real-life problems that students or instructors identify. The possibilities are endless.

Over the last few years, faculty in our department have incorporated a variety of letter writing applications into our undergraduate and graduate courses. This strategy has been used to teach general problem solving strategies, to enhance problem solving skills, and to assess application of concepts and principles. Assignments have included letters on local, state, and national issues; on content of texts and literary works; and as decision-making scenarios/cases. Students have written letters (mailed and unmailed) to real and fictitious newspaper and journal editors, politicians (local, state, and national), authors, and scientists. Both undergraduates and graduates have found the letter writing assignments to be motivating, relevant, and challenging.