

Problem-Based Learning and Adult English Language Learners

Julie Mathews-Aydinli, Center for Adult English Language Acquisition, Center for Applied Linguistics

Background on Adult Learners

Adult education programs serve learners who are native English speakers and those whose first, or native, language is not English. Native English speakers attend adult basic education (ABE) classes to learn the skills needed to earn high school equivalency certificates or to achieve other goals related to job, family, or further education. English language learners attend English as a second language (ESL) or ABE classes to improve their oral and written skills in English and to achieve goals similar to those of native English speakers.

Audience for This Brief

This brief is written for adult ESL teachers and program administrators, as well as educational researchers, policy-makers, and stakeholders who work with adult English language students in ESL classes or in mixed ABE classes (with native English speakers and English language students).

Introduction

Problem-based learning purposefully combines cognitive and metacognitive teaching and learning. It is an approach that has been around since the late 1960s (Neufeld & Barrows, 1974) and engages language students in learning how to learn while they also learn language and content. Roschelle (1999) held that problem-based learning is rooted in John Dewey's project-based pedagogy of the early 20th century (e.g., Dewey, 1929, 1933, 1938). Within the area of second language learning and teaching, problem-based learning aligns with approaches in which students learn the target language by *using* it, rather than being presented with and then practicing predetermined language structures. Approaches based on similar principles include task-based learning (Ellis, 2003; Skehan, 1998; Willis, 1996), content-based learning (Garner & Borg, 2005; Rodgers, 2006), and project-based learning (Alan & Stoller, 2005; Lee, 2002; Moss & Van Duzer, 1998). What makes problem-based learning unique is its core focus on learn-

ing through solving real, open-ended problems to which there are no fixed solutions (Ertmer, Lehman, Park, Cramer, & Grove, 2003). Students work alone or in groups first to understand a particular problem and then to find possible solutions to it.

This brief describes how problem-based learning aligns with research on second language acquisition, gives guidelines for teachers and administrators on implementing problem-based learning in classes or programs for adults learning English as a second language (ESL), and outlines the benefits and challenges of a problem-based learning approach with adult English language learners.

The Problem-Based Learning Process

In problem-based learning classrooms, the roles and responsibilities of both teachers and learners are different from those in more traditional types of school-based learning. Generally, in problem-based classrooms, the teacher acts as a coach for or facilitator of activities that students carry out themselves. The teacher does not simply present information or directly control the progression of work. Instead, the teacher provides students with appropriate problems to work on, assists them in identifying and accessing the materials and equipment necessary to solve the problems, gives necessary feedback and support during the problem-solving process, and evaluates students' participation and products, with the goal of helping them develop their problem-solving as well as their language and literacy skills. These activities are described below.

Four steps in implementing problem-based learning

Many works have described the process of problem-based learning from the perspective of students (e.g., Albion & Gibson, 1998; Boud, 1985; Butler, 2003). This process generally includes four main steps, which are illustrated in Figure 1 under "Process for Students": (1) being introduced to the problem, (2) exploring what they do and do not know about the problem, (3) generating possible solutions to the problem, and (4) considering the consequences of each solution and selecting the most viable solution. However, we have had little information about what actions each of

these steps require from the teacher. What, for example, can teachers do to help introduce students to the problem and explore what they know and do not know about it? What is the teacher's role when students are generating possible solutions and choosing among them? What are

the teacher's options after the process is complete? Figure 1 also gives some guidelines to address these questions, developed by the author of this brief. Further details on the teacher's role as outlined in Figure 1 are then described in the following section, "Considerations for Teachers."

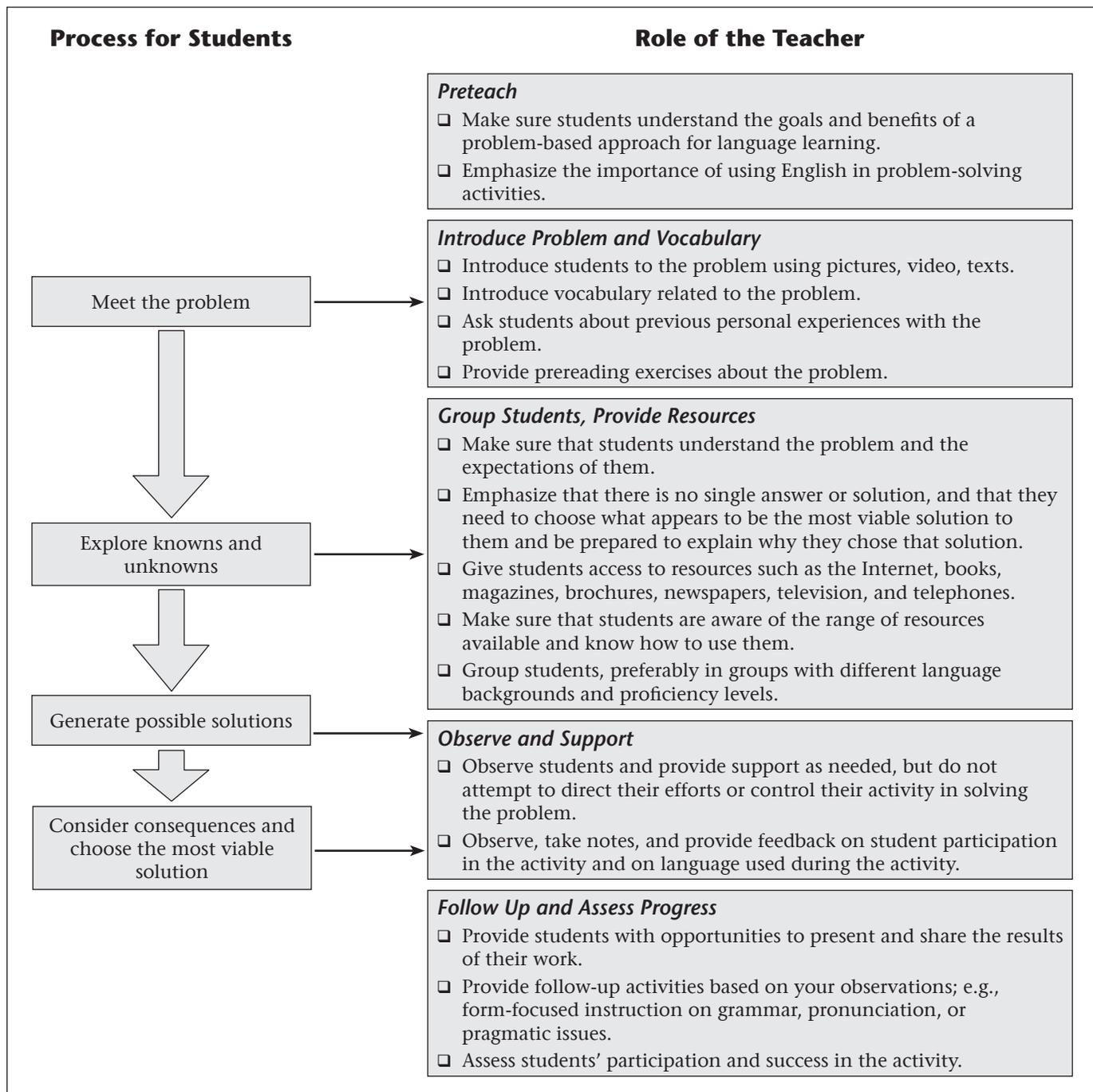


Figure 1. Student and Teacher Roles in Problem-Based Learning

Considerations for Teachers

The teacher's role in problem-based learning begins with preteaching and continues through assessment of students' performance throughout the project. It includes the following steps:

- Preteach
- Introduce the problem and the language needed to work on it
- Group students and provide resources
- Observe and support
- Follow up and assess progress

Preteach

The teacher's first responsibility is to teach students about the rationale for and structure of a problem-based approach to language learning. For students who are accustomed to more traditional, teacher-centered classrooms, it is critical that they know they will be given direct, follow-up instruction, but that during the problem-solving phase, the teacher's role is to observe and support. Students also need to understand that their goal is to work together to solve a problem, but for the activity to benefit their language learning, they must use only English in their groups.

Introduce the problem and the language needed to work on it

To maximize language learning outcomes, ESL teachers need to prepare adult students for the language demands of the problem-solving activity. Activities to prepare students vary according to their proficiency levels. (See Rhem, 1998, for activities that can be done in small groups.) These may include prereading or prewriting exercises, discussions to link the problem with the students' knowledge and experiences, or preteaching vocabulary and structures that will be useful in finding solutions to the problem.

For teachers, selecting problems for students to work on may be the most difficult part of problem-based learning. Ideally, problems should

- be related to the students' lives to increase interest and motivation,
- require students to make decisions and judgments (the problem they work on should be an actual problem, not just an information-gathering task), and
- include a question or set of questions that are open-ended and likely to generate diverse opinions.

Teachers might survey students for their ideas on problems or conflicts that they face, or have faced, in their daily lives or that they are aware of in their community. Below is a problem that students at the high-beginning or above

levels might work on. Although it is teacher created, it mirrors the problems many refugees and other adult learners face when they arrive in the United States and need to support their families while learning English.

Possible Problem Scenario and Question

You are a family of four looking for a place to live in (name local city/area). The father has a job at (choose place) and earns (income). The mother has a job at (choose place) and earns (income). You have a 14-year-old son and a 7-year-old daughter who need to start school next week. You do not have a car. Where should you live? To make the decision, you will need to consider information about local schools, costs of available housing, public transportation, and shopping locations and prioritize your needs to make the best possible choice.

Group students and provide resources

Teachers should group students carefully to increase their language learning opportunities in a problem-based activity. In a multilevel class, problem-based learning provides an opportunity to have students of different proficiency levels work together. If possible, teachers should group students from different language backgrounds together to guarantee that students communicate in English.

Teachers should make available a variety of resources to help students work on the given problem. In the sample problem above, for example, information about local schools can be collected from the schools themselves as well as from Internet sites that rank public schools across the United States (e.g., www.greatschools.net). Classified ads on the Internet and in local newspapers can be searched for housing possibilities. Bus schedules and maps can usually be obtained from transportation agencies or tourist information centers, and local government offices and public libraries are good sources for information—often free—about local services and facilities. When providing students with resources, teachers should make sure the students understand how to use them and how these resources may help in finding a solution to the problem.

Observe and support

While the students are working in their groups—gathering information, discussing it, considering and choosing the best solution for the problem—the teacher's role is to observe and support. Specifically, teachers should take notes on the language used, language problems encountered, and individual students' participation in the activity.

If asked, the teacher may provide linguistic or technical help to a group but should avoid directing the group's efforts or in any way controlling their activities to solve the problem.

Follow up and assess progress

Teachers need to provide language-appropriate opportunities for students to share the results of their work and follow-up language activities that build on that work. Depending on the proficiency levels of the students, sharing their results could include oral presentations or debates (with intermediate or advanced students), completing simple questionnaires about the process (with intermediate or high beginners), or creating posters that graphically display the steps taken in finding a solution to the problem (with beginners). Follow-up activities should be based on the teacher's observations and notes taken during the problem-solving process. While students are working to solve the problem, teachers should try to observe whether students are experiencing difficulties with particular grammar points, pronunciation, vocabulary, reading strategies (e.g., skimming for information), or pragmatic structures (e.g., telephone greetings, requesting information, thanking). These difficulties should provide the starting points for supplemental, focused instruction and support. Finally, assessment should be carried out, focusing on two primary areas: Teachers can assess students on the basis of their participation in the activity, and the activity itself can be assessed for effectiveness.

Information for Administrators

Administrators can do a number of things to initiate problem-based learning in their program and ensure that it is successful. They can

- become informed about problem-based learning and consider the options for incorporating it into their program's curriculum,
- involve teachers in problem-based learning,
- provide training and resources for teachers,
- help teachers find resources for students to use in solving problems, and
- regularly evaluate the work in problem-based learning classrooms.

Determine the place of problem-based learning in a program

Administrators need to consider whether problem-based learning should be an overarching approach to teaching throughout the program, or should be treated as an activity to be used when desired or at specific points in instruc-

tion. They also need to consider how this approach can be aligned with the program's content standards.

Involve teachers in problem-based learning

Administrators can provide opportunities for teachers to engage in problem-based learning themselves. For example, during inservice training workshops, they can present teachers with scenarios of challenges they might face in the classroom (e.g., multilevel classes, frequent rotation of students, lack of resources) and ask them to work on them together. Teachers can be given resources to explore (e.g., the Internet, research articles) and work on addressing the challenges. (See, e.g., www.public.iastate.edu/~nkerli/CI503/learning.html, a Web site that describes various adult ESL student profiles and challenges for teachers to work on.)

Provide training and resources for teachers

In addition to holding workshops for teachers on problem-based learning, administrators might arrange a study circle for them based on a short text about problem-based learning, such as this brief. In the study circle, teachers can read this brief and additional articles about problem-based learning, discuss ways to use it in their classrooms, and select problems they might introduce in their classes. (For information about conducting study circles, see Center for Adult English Language Acquisition, in press; and study circle guides from the National Center for the Study of Adult Learning and Literacy, 2005, 2006.) Two sources of possible problems to use in upper-level classes are TOEFL preparation materials and GED preparation materials, both of which include problem-based writing questions. (See, e.g., Cameron et al., 2002; Educational Testing Service, 2006.) Sources for problems to use with beginning- and intermediate-level students include *A Day in the Life of the González Family* (Van Duzer & Burt, 1999) and *Engaging Immigrant Seniors in Community Service and Employment Programs* (Senior Service America & Center for Applied Linguistics, 2006).

Help teachers identify resources

It is extremely important that administrators help teachers identify and locate resources to use for problem-based learning in their classes. If the facilities exist for students to access the Internet, this is a tremendous asset, although administrators should ensure that the teachers themselves are comfortable using available technology. In many cases, local community and government offices can offer useful and free resources. Depending on the focus of the problems used, sources such as local libraries, courthouses, Better Business Bureaus, police departments, fire stations, schools,

community centers, local businesses, chambers of commerce, or transportation authorities may be able to provide text resources, guest speakers, or sites to visit—all of which may serve as resources for problem-based learning.

Evaluate problem-based learning

A crucial component of the process is ongoing evaluation. However, regular evaluation should not be interpreted as an assessment of the teachers' or students' performances, but rather as a means for checking whether this approach is meeting the students' needs and is fitting well within the program. Administrators might use the following questions to guide their evaluation of problem-based learning in their programs:

- Are students interacting with each other and sharing information?
- Are they working together in groups rather than relying on teacher guidance?
- Are students speaking English?
- Are all students engaged?
- Is the teacher carefully observing the process and giving students meaningful feedback after the activities have been completed?
- Is the teacher incorporating these observations into subsequent language lessons?

A negative response to any of these questions may indicate that students have not been given adequate information about problem-based learning and its benefits, or that the teachers have not been adequately trained. As part of the evaluation, administrators can also consider surveying teachers and students about their experiences with and reactions to problem-based learning, and take these responses into consideration when deciding whether to revise the way the approach is being used in the program.

Benefits and Challenges of Problem-Based Learning in Second Language Acquisition

Benefits

Second language acquisition research and practice have long recognized the value of classroom interactions—among learners, between learners and teachers, and between learners and texts—for promoting language acquisition, particularly when these interactions involve negotiation of meaning. (See Moss & Ross-Feldman, 2003, for a summary of this research.) Such conclusions were reflected in the major shift toward communicative approaches in language teaching that began in earnest in the late 1970s (Brumfit & Johnson, 1979). More recently, some researchers and practitioners have turned to problem-based learning

as a way to promote meaningful interaction in the second language classroom. When there is a focus on real-world issues and problems, the interactions that take place have been found to be more meaningful and authentic than interactions produced during activities such as assigned role plays or repetition of dialogues, and the expectation is that such interactions promote second language acquisition (Mackey, 1999; Nakahama, Tyler, & Van Lier, 2001). Because problem-based learning shifts the emphasis on learning activity from teachers to students, it can also help students become more autonomous learners who will transfer the skills learned in the classroom to their lives outside of the classroom (James, 2006). For adult English language learners in particular, carefully chosen problems directly related to their everyday lives can be not only highly motivating but also practical for them to work on.

Challenges

There are some challenges with problem-based learning. One challenge is that students who share a common first language may use that language rather than English when working in groups on the assigned problem. This difficulty can be addressed by placing students of different language backgrounds in the same group. A second concern is that problem-based learning may not be appropriate for beginning- or literacy-level students whose English oral and reading skills are minimal. One way to address this concern is to place students with stronger and weaker language skills in the same group, thus allowing those with weaker skills to hear the language and observe the learning strategies of the stronger students, while giving more proficient students opportunities to engage in interactions and negotiate meaning with their peers. Another way is to preteach challenging vocabulary through reading and discussion. Teachers must carefully consider the problems and activities that students are involved in to ensure that the students with limited language and literacy understand and find solutions to the problems.

Teachers may face a different kind of challenge when they allow students to negotiate meaning and solve the problem among themselves, without teacher intervention. Research at the Lab School in Portland, Oregon, on pair work in ESL classes suggests that when teachers approach students working in pairs, the nature of the students' interaction changes (summarized in Smith, Harris, & Reder, 2005). Students may stop negotiating, ask the teacher to solve their problem, or start interacting with the teacher about unrelated topics. This change in interaction may keep students from trying out linguistic strategies to solve the problem on their own. Discussing as a class why problem-solving activities are

useful for students to carry out without the teacher's input may help to keep both students and teachers on track.

Conclusion

Problem-based learning has much to offer in adult ESL instruction. As a teaching approach it has both linguistic benefits, as shown in the research on the role of natural, meaning-focused classroom interaction in language learning, and affective benefits in the form of raising student motivation and promoting learner autonomy and transfer of learning beyond the classroom. To achieve these benefits, teachers and administrators must ensure that students understand the principles behind problem-based learning and recognize that they are participating in an effective learning process, even if it is unfamiliar to them. Teachers need support from program administrators, from initial training in how to conduct problem-based learning to help with making resources available to students. Finally, administrators must consider the role that problem-based learning will play in their program. Will it constitute the primary philosophical and pedagogical thrust of the program, or will it serve as an alternative activity for teachers to use in their classrooms? Careful consideration of these issues will increase the likelihood that problem-based learning will be successfully incorporated into an adult ESL program with positive outcomes.

References

- Alan, B., & Stoller, F. L. (2005). Maximizing the benefits of project work in foreign language classrooms. *English Teaching Forum*, 43(4), 10–21.
- Albion, P. R., & Gibson, I. W. (1998). *Designing multimedia materials using a problem-based learning design*. Retrieved February 16, 2007, from www.usq.edu.au/users/albion/papers/ascilite98.html
- Boud, D. (1985). Problem-based learning in perspective. In D. Boud (Ed.), *Problem-based learning in education for the professions* (pp. 13–18). Sydney, Australia: Higher Education Research Society of Australasia.
- Brumfit, C., & Johnson, K. (Eds). (1979). *The communicative approach to language teaching*. New York: Oxford University Press.
- Butler, S. M. (2003). Designing a technology-based science lesson: Student teachers grapple with an authentic problem of practice. *Journal of Technology and Teacher Education*, 11(4), 463–481.
- Cameron, S., Emmons, J. G., Jackson, L. W., Kay, M. A., Klug, D. K., Mallek, C. M., et al. (2002). *The best test preparation for the new GED high school equivalency diploma test*. Piscataway, NJ: Research & Educational Association.
- Center for Adult English Language Acquisition. (in press). *The CAELA guide for adult ESL trainers*. Washington, DC: Author.
- Dewey, J. (1929). *Experience and nature*. New York: Dover.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process* (Rev. ed.). Boston: D.C. Heath.
- Dewey, J. (1938). *Experience and education*. New York: Collier Books.
- Educational Testing Service. (2006). *TOEFL sample writing topics*. Retrieved December 22, 2006, from www.ets.org/Media/Tests/TOEFL/pdf/989563wt.pdf
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Ertmer, P. A., Lehman, J., Park, S. H., Cramer, J., & Grove, K. (2003). Barriers to teachers' adoption and use of technology in problem-based learning. *Proceedings of the Association for the Advancement of Computing in Education (AACE) Society for Information Technology and Teacher Education (SITE) International Conference*, 1761–1766.
- Garner, M., & Borg, E. (2005). An ecological perspective on content-based instruction. *Journal of English for Academic Purposes*, 4(2), 119–134.
- James, M. A. (2006). Teaching for transfer in ELT. *ELT Journal*, 60(2), 151–159.
- Lee, I. (2002). Project work made easy in the English classroom. *The Canadian Modern Language Review*, 59(2), 282–290.
- Mackey, A. (1999). Input, interaction, and second language development: An empirical study of question formation in ESL. *Studies in Second Language Acquisition*, 21(4), 557–587.
- Moss, D., & Ross-Feldman, L. (2003). *Second language acquisition in adults: From research to practice*. Washington, DC: National Center for ESL Literacy Education. Retrieved December 22, 2006, from http://www.cal.org/caela/esl_resources/digests/SLA.html
- Moss, D., & Van Duzer, C. (1998). *Project-based learning for adult English language learners*. Washington, DC: National Center for ESL Literacy Education. Retrieved December 22, 2006, from http://www.cal.org/caela/esl_resources/digests/ProjBase.html
- Nakahama, Y., Tyler, A., & Van Lier, L. (2001). Negotiation of meaning in conversational and information gap activities: A comparative discourse analysis. *TESOL Quarterly*, 35(3), 377–405.

- National Center for the Study of Adult Learning and Literacy. (2005). *Skills for health care access and navigation*. Boston, MA: Author. Retrieved March 1, 2007, from <http://www.ncsall.net/?id=891>
- National Center for the Study of Adult Learning and Literacy. (2006). *Adult student persistence*. Boston, MA: Author. Retrieved March 1, 2007, from <http://www.ncsall.net/?id=896>
- Neufeld, V. R., & Barrows, H. S. (1974). The McMaster philosophy: An approach to medical education. *Journal of Medical Education*, 49(11):1040–1050.
- Rhem, J. (1998). Problem-based learning: An introduction. *The National Teaching and Learning Forum*, 8(1). Retrieved December 11, 2006, from http://www.ntlf.com/html/pi/9812/problem-based_learning_1.htm
- Rodgers, D. M. (2006). Developing content and form: Encouraging evidence from Italian content-based instruction. *Modern Language Journal*, 90(3), 373–386.
- Roschelle, J. (1999). Transitioning to professional practice: A Deweyan view of five analyses of problem-based learning. *Discourse Processes: A Multidisciplinary Journal*, 27(2), 231–240.
- Senior Service America & Center for Applied Linguistics. (2006). *Engaging immigrant seniors in community service and employment programs: A guide for providers*. Silver Spring, MD, & Washington, DC: Authors.
- Skehan, P. (1998). Task-based instruction. *Annual Review of Applied Linguistics*, 18, 268–286.
- Smith, C., Harris, K., & Reder, S. (2005). *Applying research findings to instruction for adult English language learners*. Washington, DC: Center for Adult English Language Acquisition. Retrieved December 22, 2006, from http://www.cal.org/caela/esl_resources/briefs/research.html
- Van Duzer, C., & Burt, M. (1999). *A day in the life of the González family*. Washington, DC, & McHenry, IL: Center for Applied Linguistics and Delta Systems.
- Willis, J. (1996). *A framework for task-based learning*. London: Longman.

Additional Resources

Articles

- Abdullah, M. H. (1998). *Problem-based learning in language instruction: A constructivist model*. Bloomington, IN: ERIC Clearinghouse on Reading, English, and Communication. Retrieved December 11, 2006, from <http://www.ericdigests.org/1999-2/problem.htm>
- Esch, C. (1998). *Project-based and problem-based: The same or different?* San Mateo, CA: San Mateo County Office of Education. Retrieved December 11, 2006, from http://problem-based-learningmm.k12.ca.us/problem-based_learningGuide/problem-based_learning&problem-based_learning.htm
- Peterson, M. (1997). Skills to enhance problem-based learning. *Medical Education Online*, 2(3). Retrieved December 21, 2006, from <http://www.Med-Ed-Online.org>
- The role of the tutor. (n.d.). *Problem-based learning at Queen's*. Kingston, Ontario, Canada: Queen's University. Retrieved December 11, 2006, from http://meds.queensu.ca/medicine/problem-based_learning/problem-based_learninghome6.htm

Web sites

Problem Based Learning for English as a Second Language Learners

www.pblforesl.com

Contains useful details on how to set up groups and design problems.

Problem Based Learning (PBL)

<http://coe.sdsu.edu/eet/articles/pbl/start.htm>

Gives an overview of the benefits of problem-based learning.

Problem-Based Learning

<http://coe.sdsu.edu/eet/articles/problemb1/start.htm>

Distinguishes between problem-based learning and problem-stimulated learning. Also includes an animated description of the roles taken by students and teachers in a problem-based learning process.

Practitioner Toolkit for Working With Adult English Language Learners

The *Practitioner Toolkit for Working With Adult English Language Learners* has been developed to lend immediate support to adult education and family literacy instructors who are new to serving adults and families learning English in rural, urban, community-based, and faith-based programs.

This user-friendly toolkit provides a variety of materials to help practitioners meet the language and literacy development needs of the students they serve. It also includes some Spanish-language materials on learner assessments and parent education.

The toolkit includes

- Frequently Asked Questions (FAQs)
- Background information about English literacy learners and the unique challenges they face
- Research-to-practice papers on English language and literacy learning
- Sample “first day” intake forms, activities, assessments, and lesson plans
- Information about assessments for English language learners
- Information and activities for parents in English and Spanish
- Readily accessible resources for teaching different ESL levels
- Annotated list of assessment and instructional publications
- Research-based strategies for meeting the literacy needs of adult English language learners

The complete toolkit can be downloaded for free from these Web sites:

OVAE www.ed.gov/about/offices/list/ovae/index.html

CAELA www.cal.org/caela

NCFL www.famlit.org



325 West Main Street, Suite 300, Louisville, KY 40202-4237
502-584-1133 or 1-877-FAMLIT-1



4646 40th Street NW, Washington, DC 20016-1859
202-362-0700

This toolkit was made possible by a grant from the **Office of Vocational and Adult Education (OVAE)**, **U.S. Department of Education**, and was a collaborative effort of the **National Center for Family Literacy (NCFL)** and the **Center for Applied Linguistics (CAL)**. A limited number of toolkits have been printed and disseminated to state adult education and family literacy directors.