

ISSUES AND TRENDS**Teachers and Program Managers: Are You Meeting the Need for "Scientific, Evidenced-Based" Approaches to Adult Literacy Education?****Thomas G. Sticht**

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As an adult basic skills teacher you go into class or your tutoring session every day and work to help students learn to read, write, compute, and reason better. Each day you may think you see a little progress, but how do you know if what you are doing in your teaching really works?

Today, there is increased interest in the United States Department of Education in scientific, evidence-based approaches to adult literacy education. In fact, the Workforce Investment Act of 1998, Title 2, The Adult Education and Family Literacy Act, requires that funding for local adult literacy and basic education programs be contingent upon "whether the activities are built on a strong foundation of research and effective educational practice" (section 231, para. E 5).

Given the pressures exerted on adult education teachers and programs today for meeting student achievement standards and conducting rigorous evaluation and research, many have asked if principles for research in adult education already exist. Are there any good role models of "scientific, evidence-based" research and development that shows that teachers can learn new approaches to teaching and adult basic skills programs can actually be improved?

Fortunately, principles for research in adult basic skills education do exist and they were initially outlined in research in adult education during the Vietnam War. I believe they can still provide guidance on how such work may be accomplished in the adult education field today and that the activities followed in that research may be of use to those planning research and development to increase our fund of "scientific, evidence-based" guidance for adult literacy education in various contexts.

Research and Development to Produce the FLIT Program

During the Vietnam War a team I directed and developed the Functional Literacy (FLIT) program which, because of its research-based outcomes, was subsequently used to replace all adult literacy education programs at all Army training camps in the U.S. As part of our work, our team looked at the existing Army adult literacy programs

designed by adult educators in the local school districts and found that the programs used general materials like the old SRA kits (many of you will remember these), and Josephine Bauer's *Get Ready! Get Set! Go!* series. They used the United States Armed Forces Institute reading tests to measure pre and post program gains. This test was actually the Metropolitan Reading Achievement Test for children with a new USAFI cover on it. I still have a copy of one of the passages for measuring reading comprehension that said, "Many a great artist's work is produced from the inspiration of his own personal experience. It is said that the opera, *Der Fliegende Holander*, which translated means 'The Flying Dutchman,' was inspired by a stormy voyage across the North Sea by the composer Richard Wagner, etc ..." This was used with young men, many of whom were from urban areas and inner cities where opera attendance was quite low and who were about to go to war and fight for their lives, to measure their reading comprehension abilities!

In short, the local adult educators had done nearly nothing to take into account that these young men were in the Army, they had to read some pretty complex technical manuals, and that some of this reading was critical because it taught them how to stay alive in the midst of battle. Instead, they just imported into military classrooms the same materials they used in civilian programs and set out to work for 6 weeks, which is all the time the Army would give for adult literacy education. They then went about their teaching just as if these men would have the next year or 2 to work their skills up from a 2nd or 3rd grade level to the 7th grade level, the minimum our research had determined was needed for reading and working with Army materials.

Looking at this situation, our team decided that we needed to find out what Army personnel had to read, obtain copies of key documents and manuals, develop job-related reading task tests to find out how well they could read their job materials in a pre-post test comparison, and develop a six-week curriculum that would teach reading using job-related materials instead of the SRA Kits and other general teaching materials that adult educators were using.

We did all this for 6 career fields, and found that the general literacy programs had been making about 7 months' improvement in general reading and about 5 months' gain on the job related-reading tests that we built. But the job-related programs we developed made as much or more gain in general reading and four to five times the gain in job-related reading, such as how to stop a sucking chest wound in your buddy to keep him alive until the medics arrived.

In a separate independent evaluation sponsored by the U.S. Department of Education, the American Institutes for Research, which today has the contract for the National Reporting System for meeting WIA/AEFLA accountability requirements, evaluated the FLIT program

and declared it 1 of only 12 programs out of 1,500 candidates from both K-12 and adult education to be an exemplary program.

Later our team implemented the new curriculum at all-Army training posts using local teachers and students, and replicated the original program findings across the nation, demonstrating that the curriculum and not our research and development team teachers, was the critical component contributing to the program's outcomes.

Principles for "Scientific, Evidence-Based" Research and Development Practices

Some significant aspects of this for the scientific, evidence-based emphasis that are currently facing the adult literacy education field in the U.S. include:

- 1) we took the context into account in determining how to teach reading;
- 2) we used a treatment/comparison group method in developing our experimental curriculum;
- 3) we developed assessment instruments that measured whether students were learning what we were teaching, that is, the job-related reading task tests;
- 4) we used the same general literacy tests that adult educators were using to measure generalization beyond job-related literacy in the form of gains in general literacy;
- 5) we used an external, independent evaluation of the program; and,
- 6) we replicated the program 5 times in other locations in the U.S., using different teachers and students to demonstrate that it was the curriculum and not the research and development team that made the improvements in job-related reading occur.

Importantly, this research and development took place within a context in which students did not have many external worries to distract them. They had transportation, food, housing, medical care, dental care, clothing, and supervision for time management. By holding all these factors constant, the impact of the curriculum was better demonstrated. Of course, these contextual factors are not so easily controlled in most civilian adult literacy programs and so research and development plans must factor in methods for dealing with these non-curriculum factors.

Applying Research Principles in Teaching and Program Development

One way to adapt the research principles to meet local contexts is to engage in staff development that pays teachers to become researchers in their own classrooms. Teachers can plan research to bet-

ter understand what their students want and need to learn, how well they are learning, how they will use the learning outside the classroom, and what to do to help students find and use materials from outside the classroom in the classroom to enhance motivation for learning and transfer of learning from inside to outside the classroom. Teachers can develop quizzes or performance assessments to find out if students are learning what is being taught, and this information can supplement mandated pre- and post-tests that may be assessing generalization beyond what was taught rather than learning certain content and skills.

Program managers can arrange for additional staff development in which teams of teachers do comparative analyses of different approaches used by teachers in their classrooms. This may help overcome the need for treatment/comparison groups when initial attempts are being made to find out if some teachers are using methods superior to others in accomplishing attendance, learning and transfer outcomes. Examples of studies of teacher-based research and naturally occurring variations in teaching classrooms in a large adult continuing education context can be found in Sticht, McDonald, and Erickson (1998).

The new emphasis upon "scientific, evidence-based" practices in adult basic skills education challenges teachers, administrators and other program staff to identify such practices and document how their teaching and programs reflect the use of such practices. Here I have illustrated one model program of research and development that illustrates the use of good, scientifically acceptable practices. Additional information about scientifically-based principles of instruction for adult basic skills programs can be found in Sticht, Armstrong, Hickey and Caylor (1987) and Sticht (1997).

References

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