

## **Research Support for Route66 Literacy**

During the course of the development of the Route 66 Literacy program, two different research efforts have been initiated to evaluate its effectiveness as an intervention tool for adolescents and adults with developmental disabilities. The findings of these two investigations provide persuasive evidence that the Route66 Literacy tool can promote literacy learning for these difficult to teach populations of beginning readers and writers.

In the first study, the Center for Literacy and Disability Studies recruited students from states across the country to participate in 12-15 weeks of intervention using the early, research version of the tool that is now Route 66 Literacy. The 24 students who completed the pre- and post-test as well as the 90 minutes of instruction each week for 12-15 weeks had an average age of 14.7 years. All of the participants had moderate to severe speech and physical impairments and read below the first grade level. Almost all of the participants (98%) attended separate special education classes.

The assessment battery used at pre- and post-test included measures of phonological awareness that tapped phoneme blending, rhyme recognition, and initial consonant recognition. In addition, the assessment included a measure of word identification, developmental spelling and word generation. All of these measures were constructed by the research team to reflect current assessments of early and emergent literacy and did not tap specific skills taught in the program. In other words, the assessment was not a curriculum-based assessment of the skills and items taught during the intervention, but a measure of generalized growth in important areas of reading and writing.

The overall results for the group were encouraging. Their total score on the assessment battery increased from 83 to 96 out of a total of 115 points. Their improvements in developmental spelling and word generation were most impressive with an increase from 19.7 to 26.6 on the developmental spelling measure, and an increase of 18.4 to 23.9 on the word generation measures. These assessments of improved ability to identify and represent the sounds in words reflect important improvements in reading and writing ability for the participants.

The second study was carried out by Benetech in its efforts to test a beta version of the Route 66 Literacy program. A group of 8 adolescents and adults with developmental disabilities attending a day program at the Community Association for Rehabilitation, Inc. were recruited to participate in the project. These C.A.R. clients worked with the Route 66 Literacy program as part of their literacy and computer intervention. They used Route 66 Literacy for 90 minutes each week beginning in January of 2006.

Originally, the plan was the group to complete 6-9 weeks of intervention with the site, but the clients and their teacher were so excited about the project that they have continued to use the program for 9 months. To date, the participants have completed the pretest, a retest after 12 weeks of intervention, and they are now completing a follow-up test after 36 weeks of intervention. The results below include all 8 participants at time 1 and 2, but only 4 have completed the 36-week follow-up at the time this report was written.

The results of the intervention have been quite successful. Table 1 provides an overview of participant improvements on four of the assessment measures across the three time points. Without exception, these adolescents and adults who have always struggled with reading and writing have made significant improvements in their skills.

Table 1. Participants Scores on Phonological Awareness and Word Identification Measures Across 9 Months.

	<b>Phoneme Blending</b>	<b>Word Identification</b>	<b>Rhyme Recognition</b>	<b>Initial Consonant Same</b>
<b>Time 1</b>	0.40	0.58	0.33	0.17
<b>Time 2</b>	0.45	0.58	0.58	0.31
<b>Time 3</b>	0.60	0.63	0.64	0.61
<b>Gain</b>	<b>0.20</b>	<b>0.05</b>	<b>0.31</b>	<b>0.44</b>

In addition to the results reported in Table 1, a careful examination of the developmental spelling skills of the participants reveals substantial improvements in their ability to spell words. While most continue to have a great deal of progress to make before they will be able to spell all words correctly, the improvements seen across the nine months suggests they will make those improvements given time and continued high quality instruction. For example, Table 2 displays the developmental spelling efforts of one of the participants across the three time periods. Not that the strings of letters produced at time 1 do not resemble English words; however, the words at time three have the structure of English words with vowels embedded between consonants, and the initial consonant sounds in words represented correctly.

Table 2. Developmental Spelling Across 3 Time Points for One Participant

<b>Target Word</b>	<b>Time 1</b>	<b>Time 2</b>	<b>Time 3</b>
back	belsd	bat	ba
sink	suate	sated	tune
mail	muaead	melstd	make
dress	saustd	restul	ron
lake	leased	lites	lake
peeked	palesd	pestle	pone
light	lasead	little	land
dragon	delsead		rone
stick	seduluse	setind	lese
side	duaelsd	seind	sane
feet	fuesudl	fine	soed
test	tusuely	tielsd	tane

In summary, existing evidence supports Route 66 Literacy as an effective literacy-learning tool for adolescents and adults with developmental disabilities. The completion of the Route 66 Literacy program will allow us to continue to evaluate its effectiveness across a broad population of learners.