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Abstract

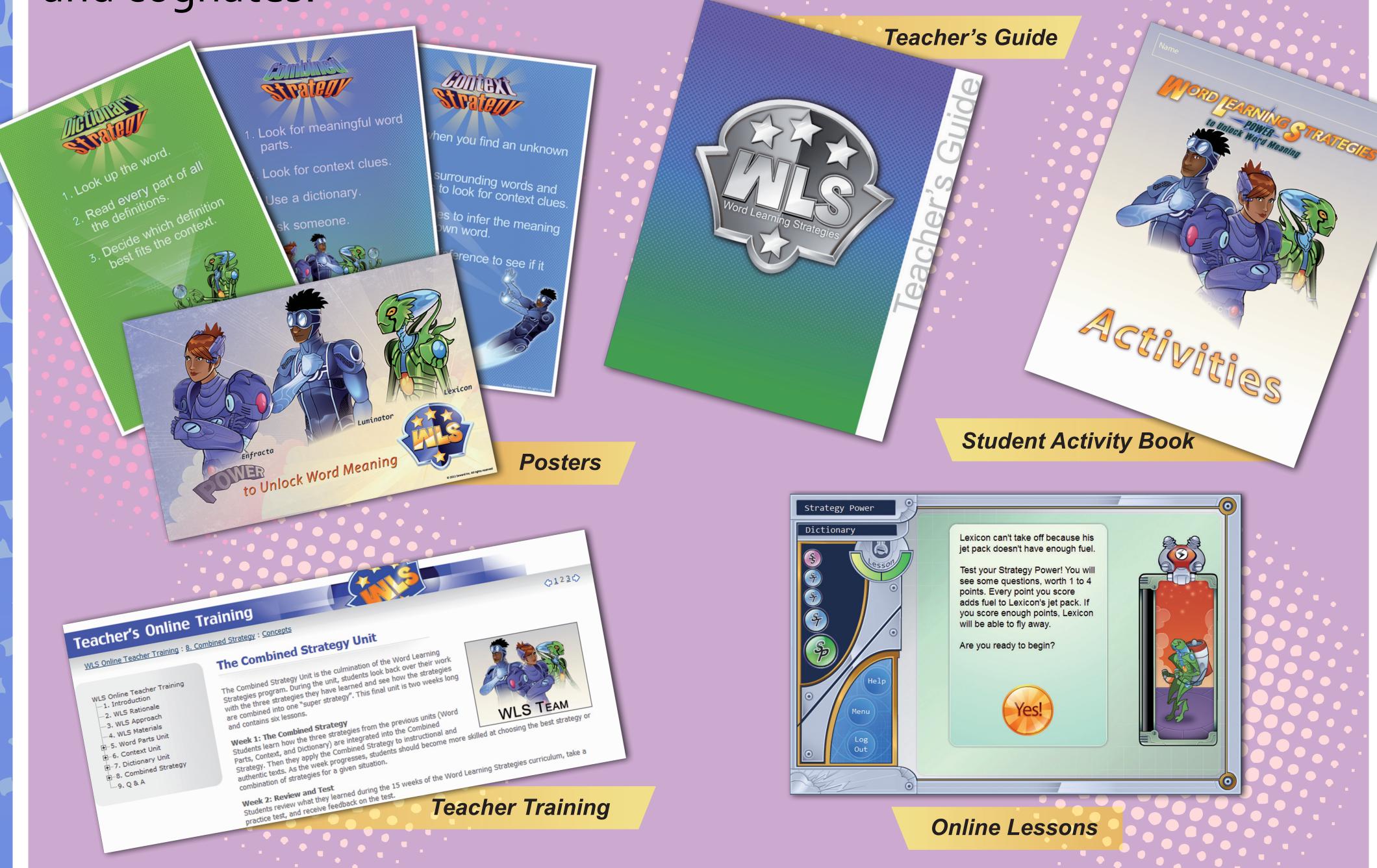
In the Word Learning Strategies project, we developed and tested materials and procedures for a 15-week program designed to teach upper elementary students to use morphology, context, and the dictionary to infer the meanings of unknown words they meet while reading. The project also included testing of an online training course for teachers, online remediation lessons, and supplemental online lessons for ELLs. The results indicate that students in the treatment groups made significant gains and outperformed students in the control groups.

Research Questions

- 1. How effective is the WLS program in teaching upper elementary students to use word learning strategies to infer the meanings of unknown words they meet while reading?
- 2. How effective are our online teacher training program and the detailed Teacher's Guide in preparing teachers to teach the WLS program?

Materials

Teacher materials include online training and a teacher's guide that details 45 classroom lessons. Student materials, designed around a superheroes theme, include activity books, posters, tests, online remediation, and supplemental online lessons for ELLs on idioms and cognates.



Methods



The WLS program underwent three field trials. During the first trial, a one-week unit on prefixes was tested in three 4th grade classrooms. Results from testing, interviews, and observations indicated our basic approach was feasible and showed promise of effectiveness. Materials were then revised and expanded for the second trial, when the full 15-week curriculum was tested

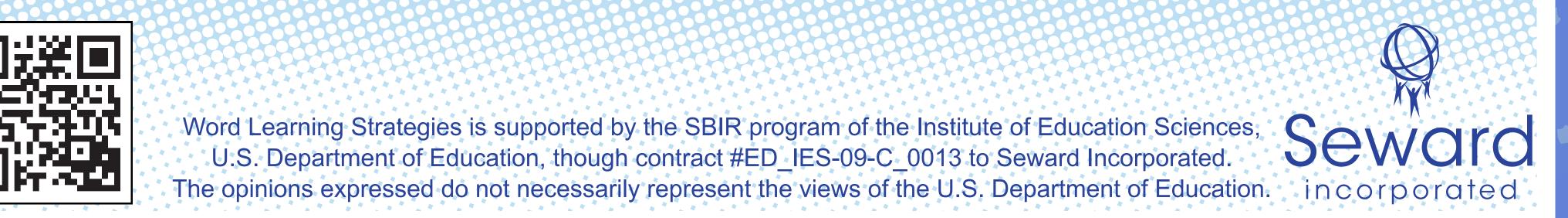
in a 4th grade and a 5th grade; again the program was proven to be effective—students showed significant gains from pretest to posttest.

The teacher-led curriculum and the teacher training were further revised, and the online student lessons were developed. These components were tested in our third trial at an inner city school using a quasi-experimental design with two treatment groups and two control groups.

- Treatment: One 4th grade teacher and one 5th grade teacher received 90 minutes of online training and then taught the WLS program. Over 15 weeks, they used a blend of direct explanation and constructivism to instruct students on word parts, context, the dictionary, and a combined strategy. Students needing extra help received remediation via online lessons, and ELLs received supplemental online instruction in idioms and cognates.
- Control: The 4th grade teacher and the 5th grade teacher taught their usual curriculum.
- **Both:** Teachers took pre and posttests on word learning strategies instruction. Students were pre and posttested on their knowledge of word learning strategies and their ability to apply them.







Results

Teacher Testing

The teacher pre and posttest included 20 items. The treatment teachers averaged 16 on the pretest and 19.5 on the posttest, while the control teachers averaged 13 on the pretest and 12 on the posttest.

Student Testing

The student test data were analyzed using a MANOVA examining the main and interaction effects of treatment, grade, and ELL status; and an effect size was calculated for treatment.

Fifty-two treatment students and 46 control students took both the pre and posttest. As shown in Table 1, treatment students in both grade 4 and grade 5 and both native English speakers and ELLs made sizeable gains from pretest to posttest, while the control students made virtually no gains. The MANOVA showed that all three main effects and the treatment x ELL status interaction were significant (p < .01). Cohen's d showed a treatment effect size of 1.29.

Variable (n)		Pretest Mean (SD)	Posttest Mean (SD)
Instruction			
Treatment (52)	18.96 (7.83)	26.06 (6.24)
Control (46)		17.21 (6.04)	17.39 (7.22)
Grade			
4th Grade (52)		16.60 (6.76)	19.85 (6.68)
5th Grade (46)		19.72 (6.66)	23.76 (6.28)
ELLs Status			
ELLs (42)		14.89 (5.53)	18.36 (5.09)
Treatment (22	2)	13.74 (5.28)	22.55 (5.28)
Control (20)		16.40 (5.78)	14.18 (6.53)
Non ELLs (56)		20.31 (6.73)	24.25 (6.25)
Treatment (26	()	22.77 (7.20)	28.64 (5.65)
Control (30)		17.84 (6.26)	19.86 (6.86)

Conclusion

The results clearly indicate that a comprehensive teacher-led program to teach upper elementary grade students to use word parts, context, and the dictionary to infer the meanings of unknown words can be created, can be implemented by teachers is typical U.S. classrooms, and can markedly improve students' ability to use these strategies.