

Using the Schoolwide Enrichment Model Reading  
Framework (SEM-R) to Increase Achievement,  
Fluency, and Enjoyment in Reading

Research Proposal for Teachers for a  
New Era Project Grant

Faculty Award Division

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# Using the Schoolwide Enrichment Model Reading Framework (SEM-R) to Increase Achievement, Fluency, and Enjoyment in Reading

## 1. Problem Statement (25 points):

Our proposal is aligned with TNE Principle One, decisions driven by data in the Faculty Award division. We propose to use the Schoolwide Enrichment Reading Model (SEM-R), an enriched and accelerated approach to reading that is effective in increasing the reading achievement and fluency of economically disadvantaged students from diverse cultural and linguistic backgrounds who have potential for academic success, to increase reading achievement and fluency, as well as enjoyment of and self-regulation in reading in fourth-eighth grade students. The SEM-R focuses on increasing pupil learning by increasing reading achievement for *all* students using gifted education pedagogy.

There are at least three reasons that this proposal focuses on increasing reading achievement in particular. First, critical research has documented the wide range of skills and degrees of readiness with which children enter kindergarten (West, Denton, & Germino-Hausken, 2000) and progress through elementary and middle school. The failure of many students placed at-risk to achieve at high levels as they move through school is also highlighted in *The 2002 Nation's Report Card on Reading*, issued by the National Assessment of Educational Progress (NAEP). This report indicates that 36% of U.S. fourth graders and 25% of U.S. eighth graders were reading below basic level, meaning they could not demonstrate an understanding of the literal meaning of text, identify main ideas, make inferences, or relate what they read to personal experiences. This failure may result in the inability to make successful transitions into increasingly challenging educational environments. Even more troubling is the discrepancy between scores of White students as compared to culturally diverse students. For example, in Connecticut, 9% of Black and 10% of Latino eighth graders met the reading proficiency standard, as compared with 48% of White students. These discrepancies are also noted at the national level (Frahm, 2003).

The second reason for our focus on reading achievement is that research has consistently indicated that reading is the most important factor in success in school, and a major key to school success continues to be reading achievement in appropriately challenging instructional materials (Anderson, Hébert, Scott, & Wilkinson, 1985; Chall, Jacobs, & Baldwin, 1990; National Reading Panel [NRP], 2000).

The third reason that we believe this proposal is significant is that little previous research has examined methods of using enriched reading practices to increase reading achievement for all students; especially for the middle school population. With the exception of our research on the SEM-R, described in this proposal, no other research has been conducted on the use of gifted education pedagogy to increase reading achievement of all students. We believe that the SEM-R study described in this proposal addresses a problem that has been neglected for decades—how to use an enrichment approach to increase achievement in students who read at all levels of achievement.

### Description of the SEM-R

The SEM-R includes three general categories of reading instruction that are dynamic in nature and are designed to enable some flexibility of implementation and content in response to both teachers' and students' needs. This approach is based on Joseph Renzulli's Enrichment Triad Model (1977) that includes three levels of enrichment: exposure, training and self-selected reading, and investigations of self-selected topics respectively implemented in three phases.

Phase 1 of SEM-R includes listening comprehension skills, as teachers read aloud from high quality, exciting literature and use follow-up strategies including thinking skills instruction and higher-order questioning book marks developed for this study (Appendix F). Bookmarks with higher-order questions are placed in all the books, and teachers are also provided with suggestions for engaging students' interests and helping them to enjoy listening to high quality biographies, autobiographies, mysteries, poetry, historical and science fiction, and non-fiction books.

Phase 2 of the SEM-R emphasizes the development of students' capability to engage in supported independent reading of self-selected high interest books. Students select books based on their interests, but the reading level must be above students' current reading levels. Reading material for these sessions is at least 2 years above students' current reading level and teachers are trained by researchers to be able to assess appropriate levels of challenge. During this reading time in class, classroom teachers and instructional aides, coached by

research team members, provide individualized instruction in strategy use, including phonics and vocabulary, as students read aloud to teachers, aides, and researchers. Teachers engage more advanced readers in book discussions relating to higher-order themes and critical questions using materials prepared for the study. A thorough and comprehensive list of appropriately challenging, high interest non-fiction and fiction materials is provided for reference and selection. In addition, students are trained in creative and critical thinking and in advanced training in the use of the web to find information about fiction, non-fiction, authors, biographies and autobiographies.

Phase 3 of SEM-R encourages students to move from teacher-directed opportunities to self-choice activities. Activities include, but are not limited to, opportunities to pursue technology, discussion groups, advanced questioning and thinking skills, language arts creativity training, learning centers, independent projects, free reading, and book chats. The intent of these experiences is to provide time for students to pursue areas of personal interest and enjoyment through the use of interest centers, technology, and the web, so they learn to read critically to locate especially high quality challenging literature. Options for independent study are also made available to students during this phase of the SEM-R.

## **2. Related Work (15 points):**

A prior study using the SEM-R was conducted over a two year period in 2001-2003. At the beginning of the study period, over 90% of the students in the urban schools studied could not sustain independent reading for more than a few minutes. The data from the first year of the study indicate significant differences in reading comprehension, fluency, and attitude toward reading favoring the SEM-R group (Reis et al., in press). After controlling for pre-intervention attitude toward reading scores, statistically significant differences were found with a medium effect size among treatment levels favoring the SEM-R group on post-intervention attitude toward reading scores,  $F(1, 115) = 9.74, p = 0.002, \eta^2 = 0.08$ . A statistically significant difference of small to moderate effect size was found among treatment levels favoring the SEM-R group on post-assessments of reading comprehension,  $F(1, 120) = 7.08, p = 0.009, \eta^2 = 0.06$ . A statistically significant difference of small effect size was also found among treatment levels favoring the SEM-R group on post-assessments of oral reading fluency,  $F(1, 118) = 6.51, p = 0.012, \eta^2 = 0.05$ . The second year data indicated that the SEM-R group made statistically significantly greater gains over their control group peers in reading fluency,  $F(1, 544) = 4.58, p = 0.033, \eta^2 = 0.01$ . There were no differences in attitude toward reading or reading comprehension among SEM-R and control students in the data from both phase 2 schools. There was, however, a statistically significant difference of small effect size favoring the SEM-R group among treatment levels on post-assessment reading comprehension data at the urban school  $F(1, 112) = 5.25, p = 0.024, \eta^2 = 0.045$ . Our preliminary results suggest that talented readers, as well as average and below average readers, benefited from the intervention. We have never implemented this approach with middle school students in a research setting, but pilot efforts suggest it works quite well.

Little research, except that conducted by our own research center, has focused on using various forms of gifted education pedagogy to increase reading achievement levels in all students (Reis et al., in press; Reis, Gentry, & Park, 1995; Renzulli, 1993). Furthermore, this intervention will examine whether the effects found in a prior SEM-R study will positively affect middle level learners. We believe that the problem addressed in this study is one of the most important in education. This theme continues the work of researchers at the University of Connecticut site of the NRC/GT about the development of "high-end learning" opportunities for all students. These opportunities include high expectations, rigorous standards, greater engagement with subject matter, and accelerated learning for all students. This study will contribute significantly to the generalizability of achievement, fluency, and attitude assessment results and if this occurs, may result in more national replications of the SEM-R.

## **3. Methodology (25 points):**

In this proposal, we have extended the SEM-R intervention to a full academic year and will expand the study from grades 4-6 to middle school (Grades 5-8). Teachers will implement the SEM-R instead of the basal reading program for at least 5 hours each week (1 hour per day) in the fall and spring. The research design for this study enables us to investigate further the impact of the intervention of SEM-R by extending our research to the middle grades. The ultimate goal of the project is to replicate the SEM-R in other schools throughout the nation and attain

similar research results, by increasing reading achievement, fluency, and increasing attitudes toward and self-regulation in reading.

**a. Questions/Hypotheses**

The following research questions, addressed primarily through quantitative analyses, will guide this study:

1. Do students who participate in the SEM-R intervention outperform control group students on measures of reading fluency and achievement?
2. Do those students who participate in the SEM-R intervention have significantly more positive attitudes toward reading than control group students?
3. Is there a differential impact of the SEM-R on students of different reading levels (high, average, low) based on different demographic variables such as linguistic diversity and participation in special education programs?
4. How can teachers modify reading instructional practices and the regular reading curriculum to meet the needs of students in regular classroom settings?

**b. Procedures for Data Collection**

We have been contacted by over 400 educators interested in replication of the SEM-R and have maintained a database of these educators. We had inquiries from over two dozen districts in Connecticut, and we will recruit one to two middle schools in Connecticut. We already have a commitment from East Haven and may recruit another school, depending on the number of classes. District and school administrators will have to agree to meet the following criteria:

- A. To include teachers in grades 4-8 who will be randomly assigned to implement the SEM-R. Teachers must be willing to be assigned to either the treatment or control group teacher. Control teachers will be offered SEM-R training after the 2-year study is completed.
- B. To have the principal and superintendent support the implementation of the SEM-R and be willing for us to randomly assign students in the targeted grades to either treatment or control group across classrooms for reading instruction. This will involve regrouping students for the academic year intervention.
- C. To make available a 1 hour time block each day for this program from September 1 to April 15.
- D. To assist classroom teachers and control teachers in distributing parent permission letters and collecting data required in the study, both before the SEM-R implementation begins and after it concludes. Data collection includes pre-assessment in reading fluency and questionnaires about interests, attitudes about, enjoyment of, and self-regulation in reading (see Appendix C). Treatment teachers will be asked to complete a weekly log of classroom activities (Appendix G) and a brief questionnaire about their classroom reading practices (Appendix E). At the end of the intervention, students will take the reading comprehension subtests of the *Iowa Tests of Basic Skills* (ITBS) (2002) that will take approximately 50 minutes to complete.

<b>Timeline for Data Collection</b>	
May	Letters sent home to students Teachers assigned to treatment and control conditions
June	Students are randomly assigned to treatment or control Treatment teachers receive SEM-R book and classroom libraries
July	Training of liason for coaching position
August	SEM-R training for treatment teachers
September	Administer Preassessments: ITBS Reading Comprehension, Reading Fluency Test, Enjoyment of Reading Survey, Reading Interest-A-Lyzer
January	Re-administer: Reading Fluency Test
April	Re-administer: ITBS Reading Comprehension, Reading Fluency, and Enjoyment of Reading Survey

- E. To provide teachers with access to other books to support the intervention and to help reading specialists and librarian/media specialists learn how to provide support materials for teachers and students.
- F. To enable a UConn research associate (Fogarty) to coach and help the participants implement the intervention by email, phone, and distance learning. A local liaison will be appointed to coach classroom teachers. The liaison must be able to attend in-depth SEM-R training provided at a 1-week summer session at the University of Connecticut.
- G. To enable teachers who are assigned to implement the SEM-R to attend a 1-day training session that will be held on site in their districts. The principal, reading consultant, and school librarian must attend as well.

### **c. Data Analysis**

An experimental design will be used, with cluster-randomized assignment to groups and the use of advanced statistical procedures including multilevel modeling methods, as well as follow-up procedures to explore specific group and individual differences. Teachers and students will be randomly assigned to either treatment or control classes. Standard analysis of variance procedures (ANOVA, ANCOVA, MANOVA) and regression will be used in addition to multilevel modeling techniques that will enable us to use the hierarchical data structure to explore group differences in greater depth. This will, for example, provide us with the opportunity to study classroom teachers whose students achieve significantly higher than in other classrooms (classroom effects) as well as individual achievement effects at the student level. Qualitative data collected from interviews, focus groups, and observations will be analyzed for themes and patterns (Miles & Huberman, 1984).

### **d. Collaboration of Partners**

National experts in the fields of gifted education, reading, and extending gifted and talented education to a broader range of students will participate in this grant. Drs. Sally Reis and Michael Coyne were involved in prior implementation of the SEM-R and will work with research assistant Elizabeth Fogarty to implement, gather and analyze data on this implementation of the SEM-R. Not only is a collegial relationship already established among these professionals, but they also bring to the project a wealth of experience and expertise in reading, gifted education and administration. The collaboration of these UConn researchers with the staff and administration of the Connecticut Public Schools will likely produce many positive results including, but not limited to: increased reading achievement, fluency, self-regulation, and enjoyment of reading for students; increased information on the effectiveness of using gifted pedagogy with all students; as well as advanced training in reading instruction for school faculty and staff.

## **4. Expected End Product (25 points):**

Because of prior work on the SEM-R, this research will be extensive as well as cost-effective. Many study materials have already been developed and used with study participants. These materials include: the Reading Interest-A-Lyzer (Appendix B), the Reading Log (Appendix C), Current Classroom Practices for Reading Survey (Appendix E), SEM Reading Study Bookmarks (Appendix F), and the SEM-R Lesson Template (Appendix G). The book that explains the implementation of the SEM-R is already drafted and has undergone extensive revision as a result of 2 years of experimental research. We assume that a revision of this book will be able to be geared to middle school teachers and students.

Aside from the materials that have already been developed, independent study units for Phase 3 will be created so that students will be able to use reading to explore their interests in-depth. Several units in topics such as poetry, birdwatching, and paleontology have already been completed. The goal will be to develop approximately 50 interest-based independent study units for use with students of varying ability levels and interests. With the addition of grades seven and eight in this site, the book list (a sample can be found in Appendix D) will need to be expanded to include middle grades readers. All the questionnaires and research forms have been developed and tested for validity and reliability with students in grades 4-6 and will need to be examined further for use with grades 7-8. If these instruments are not determined to be valid for the extended grades, appropriate instruments will have to be found or developed.

Research articles and a technical report will also be completed as a result of this work. We anticipate at least two major research articles and a full-length technical report. We hope to submit to Reading Research Quarterly and to Educational Psychologist.

Replication of materials for the SEM-R, as well as opportunities for further training will be made available using the NRC/GT web page, as well as the network of professionals that are a part of the NRC/GT. In addition, an Internet portal will be developed and placed on the NRC/GT web page listing resources and intervention materials. Classes will also be offered at the annual summer institute at the University of Connecticut, as well as annual conferences held by the National Association for Gifted Children and other professional groups such as the International Reading Association. All curriculum materials and instruments designed for the study will be made available through the NRC/GT web site at the culmination of the project, as will a distance learning web class on the SEM-R. More important than the tangible deliverables of this project, however, is the potential for understanding the role played by interest, challenge, and choice in reading achievement in middle level learners.

#### **5. Project Personnel (10 points):**

##### **Principal Investigator:**

**Sally M. Reis**, the co-principal investigator, is the Department Head and a Professor of Educational Psychology at the University of Connecticut, where she also serves as Principal Investigator for the NRC/GT. She was a teacher for 15 years, 11 of which were spent working with gifted students at the elementary, junior high, and high school levels. She was a reading teacher for 7 years, and has a background in reading and language arts. She has conducted research in numerous areas and authored more than 130 articles, 10 books, 55 book chapters, and numerous monographs and technical reports. Her research interests are related to special populations of gifted and talented students and extensions of the Schoolwide Enrichment Model to curriculum and school improvement.

A former special education teacher, **Michael Coyne** received his Ph.D. in special education and literacy from the University of Oregon in 2001. His research focuses on beginning reading instruction for students with diverse learning needs and schoolwide beginning reading models. Dr. Coyne is currently an Assistant Professor of Special Education in the Department of Educational Psychology at the University of Connecticut where he teaches courses on effective instructional practices and reading instruction for students with learning disabilities. Dr. Coyne has been a researcher on four federally funded grants focused on optimizing beginning reading instruction for students with disabilities. Dr. Coyne's articles have appeared in peer-reviewed journals including *Learning Disabilities Research and Practice* and *Annals of Dyslexia*.

**Elizabeth Fogarty** is a research assistant in the Educational Psychology department at the University of Connecticut where she is working toward a Ph.D. in Educational Psychology and Curriculum and Instruction with emphases in Gifted Education and Language Arts. Her studies have included courses and research projects in early literacy, middle school language arts instruction, adolescent and children's literature, as well as gifted education pedagogy. Prior to studying at UConn, Elizabeth was an elementary language arts teacher and completed a master's degree in Gifted Education and Talent Development.

#### **4. Budget (5 points):**

The budget has been computed based on a grant award of \$8,000 and is described in detail in Appendix I. Personnel funding accounts for \$1,650 of the grant money in the form of a summer assistantship stipend for the graduate student. An in-kind contribution of \$8,826 in UConn funding has been designated toward project personnel for this project. This support is in the form of personnel summer stipends and fringe benefits, as well as 25% of the graduate assistant's academic time.

Non-personnel funding totals \$6,350 and includes expenses for the liason to attend summer training at UConn, mileage for weekly travel to and from the research site in East Haven, Connecticut, books for the site classrooms and library, and fees for the Iowa Test of Basic Skills. Including in-kind contributions and TNE grant award, total expenses for this project are \$16,826.

## Bibliography

- Anderson, R. C., Hébert, E. H., Scott, J. A., & Wilkinson, I. A. (1985). *Becoming a nation of readers: The report of the commission on reading*. Washington, DC: The National Institute of Education.
- Burns, S. M., Griffin, P., & Snow, C. E. (Eds.). (1999). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Campbell, D., & Stanley, J. (1963). *Experimental and quasi-experimental designs for research*. Chicago: Rand-McNally.
- Chall, J. S., Jacobs, V. A., & Baldwin, L. E. (1990). *The reading crisis: Why poor children fall behind*. Cambridge, MA: Harvard University Press.
- Frahm, R. A. (2003, June 20). Gap in reading test results worsens. *Hartford Courant*, pp. B1, B7.
- Hasbrouck, J. E., & Tindal, G. (1992). Curriculum-based oral reading fluency norms for students in grades 2 through 5. *Teaching Exceptional Children*, 24(3), 41-44.
- Huberman, M., & Miles, M. B. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Newbury, CA: Sage.
- Jacobs, J. (2003). *Enjoyment of reading survey*. Unpublished instrument. Storrs, CT: University of Connecticut.
- McKenna, M. C., & Kear, D. J. (1990). Measuring attitude toward reading: A new tool for teachers. *Reading Teacher*, 43(9), 626-639.
- National Assessment of Education Progress. (2002). *The 2002 nation's report card on reading*. Retrieved on June 22, 2003 from the National Center for Education Statistics Web site: (<http://nces.ed.gov/nationsreportcard/reading/results2002/>).
- National Reading Panel. (2000). *Teaching children to read: An evidenced-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington, DC: Author.
- Reis, S. M., Gentry, M., & Park, S. (1995). *Extending the pedagogy of gifted education to all students* (RM95118). Storrs, CT: The National Research Center on the Gifted and Talented Research, University of Connecticut.
- Reis, S. M., Gubbins, E. J., Briggs, C., Schreiber, F., Richards, S., Jacobs, J., Eckert, R. D., et al. (in press). *Reading instruction for talented readers: Few opportunities for continuous progress*. Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.
- Reis, S. M., Hébert, T., Díaz, E., Maxfield, L. R., & Ratley, M. E. (1995). *Case studies of talented students who achieve and underachieve in an urban high school* (RM95120). Storrs, CT: The National Research Center on the Gifted and Talented Research, University of Connecticut.
- Reis, S. M., Westberg, K. L., Kulikowich, J., Caillard, F., Hébert, T., Plucker, J., et al. (1993). *Why not let high ability students start school in January?* (RM93106). Storrs, CT: University of Connecticut, The National Research Center on the Gifted and Talented.
- Renzulli, J. S. (1993). Schools are places for talent development: New directions for the Schoolwide Enrichment Model. *The Communicator*, 24(7), 4-13.
- Renzulli, J. S. (1977). *The enrichment triad model: A guide for developing defensible programs for the gifted and talented*. Mansfield Center, CT: Creative Learning Press.
- Renzulli, J. S., & Reis, S. M. (1985). *The schoolwide enrichment model: A comprehensive plan for educational excellence*. Mansfield Center, CT: Creative Learning Press.
- Renzulli, J. S., & Reis, S. M. (1997). *The schoolwide enrichment model: A how-to guide for educational excellence* (2nd ed.). Mansfield Center, CT: Creative Learning Press.
- Richards, S. (2002). *Current classroom practices for reading*. Unpublished instrument. Storrs, CT: