

**Abstract Title Page**  
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**Title:**

Preliminary Findings from an Efficacy Study of a Distributed Leadership Model of School Organization

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## **Abstract Body**

*Limit 4 pages single-spaced.*

### **Background / Context:**

*Description of prior research and its intellectual context.*

A widely cited meta-analysis of the effects of comprehensive school reform and student achievement (Borman, Hewes, Overman, and Brown, 2003) found Modern Red Schoolhouse-developed whole-school intervention programs to boost student achievement outcomes at rates on par with or higher than other comprehensive school reforms such as *America's Choice* and *Success for All*. The most recent comprehensive school reform model developed by Modern Red Schoolhouse (MRSB), Systems Leadership in Middle Schools (SLMS), heavily influenced by Senge (1990), calls for a reorganization of a given school's teachers and administrators onto six "Action Teams," each headed by a teacher who also serves on the school's "Guiding Coalition" (see Kilgore and Reynolds, 2011 for a full description of the intervention). Each action team develops and focuses its activities based on the Action Team topical area: family and community partnerships, curriculum and instruction, data analysis, technology, professional development, and school climate and culture. Team membership is expected to reflect the school's faculty makeup with respect to departmental and grade-level representation, years of teaching experience, ethnicity, gender, and personality type as indicated by MBTI testing. Kilgore and Reynolds (2011) draw on work in organizational change (e.g., Kotter, 1996), business (e.g., Surowiecki, 2004), and 1950's structural-functionalist social psychology (e.g., Levi, Torrance, and Pletts, 1955) to justify their model of Action Team membership. Action Teams are meant to replace standing and ad hoc committees and are expected to provide the organizational mechanism through which the school attends to all externally and internally produced directives.

### **Purpose / Objective / Research Question / Focus of Study:**

*Description of the focus of the research.*

The purpose of this Institute of Education Sciences Goal 1 study (R305A090481) is 1) to explore the relationships among the Systems Leadership for Middle Schools (SLMS) intervention and student achievement outcomes and 2) to explore factors and conditions that mediate the relationships among the SLMS intervention and student achievement outcomes. These explorations will result in sets of hypotheses on the relationships between the SLMS intervention and a) student achievement outcomes, b) the factors and conditions that mediate the relationships between the intervention and student achievement outcomes, and c), the SLMS intervention and changes in densities and extent of collegial ties. We focus on those malleable factors under the control of the middle school systems and likely influenced by the intervention. Key malleable factors include: (a) staff participation in professional development activities, (b) access to expertise, (c) workplace commitment, (d) instructional coherence, (e) collegial ties, (f) classroom teaching, (g) teacher practices, (h) distributed leadership, (i) professional community, (j) capacity for school improvement, and (k) the SLMS intervention itself.

### *Research Questions:*

- RQ1. What are the state-level, school district-level, and school-level factors that mediate reform in treatment and control schools? (*malleable factors: a, c, g, and j*)
- RQ2. How do the everyday behaviors of school staff change in treatment and control schools? (*malleable factors: b, c, d, e, f, g, h, and i*)

- RQ 3. How does the SLMS intervention change organizational processes in treatment schools as compared to control schools? (*malleable factors: a, b, e, h, and k*)
- RQ 4. To what extent does the SLMS intervention change classroom instruction in treatment schools as compared to control schools? (*malleable factors: d, f, and k*)
- RQ 5. To what extent does the organizational structure of SLMS intervention enable schools to meet the demands of the state as compared to control schools? (*primary malleable factors: a, g, h, and k*)
- RQ 6. To what extent does information flow improve in treatment and control schools? (*malleable factors: b, d, g, e, and k*)
- RQ7. To what extent do the densities and number of collaborative ties change in treatment and control schools? (*malleable factors: b, d, g, e, and k*)

### **Setting:**

*Description of the research location.*

Six urban public middle schools in Duval County Public Schools (DCPS), Florida participated in the study.

### **Population / Participants / Subjects:**

*Description of the participants in the study: who, how many, key features, or characteristics.*

More than 800 middle school teachers and administrators participated in the study.

### **Intervention / Program / Practice:**

*Description of the intervention, program, or practice, including details of administration and duration.*

The Systems Leadership for Middle Schools (SLMS) intervention was developed by Modern Red Schoolhouse (MRSB), an organization self-described as “a non-profit organization that provides customized professional development based upon solid evidence of what works in highly effective schools.” The SLMS program is designed to provide support for middle school staff to effectively devise their own solutions to contextually specific problems. There are three dimensions to the SLMS program that provide the basis of the support: *structure, process, and technical knowledge* (Kilgore and Reynolds, 2011). MRSB facilitators provide on-site support and engage in a variety of professional development activities with school principals, MRSB “Action Teams,” and MRSB “Guiding Coalitions.” On-site support typically consists of three-day visits where MRSB facilitators meet separately with each of the six Action Teams and the Guiding Coalition at each treatment site. MRSB facilitators meet with school principals several times over the three-day visits, with longer meetings typically occurring after school.

### **Research Design:**

*Description of the research design.*

Originally designed as a RCT, then as a quasi-experiment, participant recruitment difficulties led the research team, in conjunction with the sponsor, to redesign the study in a more squarely systematic mixed-methods direction. The six schools participating in the study have been placed into treatment and control groups and have been matched as pairs.

### **Data Collection and Analysis:**

*Description of the methods for collecting and analyzing data.*

Because the ultimate goal of our exploratory project is to generate a series of testable propositions, our mixed-method design involves descriptive statistics generated from: student achievement data from the Florida Department of Education (FLDOE), school culture and climate data from DCPS, survey data from the SLMS Network Survey administered at four time points as well as the SLMS Teacher and Principal Surveys administered at a time approximating pre-intervention conditions as well as a post intervention time point. MRSH Attendance Logs for SLMS professional development sessions provide measures of implementation fidelity. The research team also conducted more than 60 observations of classroom teaching using a protocols allowing for both quantitative and qualitative data collection. Additionally, project staff conducted nearly 80 interviews with teachers, principals, and focus groups. Finally, the research team observed more than 100 professional development sessions across treatment and control schools. Our preliminary analyses of quantitative data are exploratory and descriptive. Cross tabulations and correlational analyses were juxtaposed with qualitative data across metrics relevant to each project research question for purposes of triangulating the empirical patterns emerging from each longitudinal data source. More sophisticated quantitative analyses are necessary to address the final two research questions on networks. These analyses are currently underway. Network maps will graphically represent the informal structure of school actor collegial ties using Frank's (Frank, 1995, 1996) *KliqueFinder* algorithm for identifying cohesive subgroups based on the pattern of ties among actors, and will embed the subgroup boundaries in crystallized sociograms. Ultimately, the technique reorganizes the data to generate a more accessible, clearer image of the social structure that is consistent with characterizations of systemic social structures. Ultimately, we will model the extent to which relationships between colleagues at each school site change. Analysis of network maps will be used to characterize clusters within the community, reveal individuals and organizations with high capacity for linking research to education as well as identify gaps in connectivity where efforts at facilitation are needed to improve communication.

### **Findings / Results:**

*Description of the main findings with specific details.*

FLDOE Data: Trends in student achievement reveal treatment schools show greater decreases in student achievement scores in both reading and math than control schools. However, control schools show a greater decrease in writing achievement scores than treatment schools. Finally, control schools saw greater gains in science achievement scores than treatment schools:

- Where the mean percent of students proficient in reading in control schools dropped from 57% to 45%, the mean percent of students proficient in reading in treatment schools dropped from 60% to 45%. Hence, the mean percent of students proficient in reading dropped at a greater rate in treatment schools than in control schools.
- Where the mean percent of students proficient in math in control schools dropped from 54% to 44%, the mean percent of students proficient in math in treatment schools dropped from 57% to 41%. Hence, the mean percent of students proficient in math dropped at a greater rate in treatment schools than in control schools.
- Where the mean percent of students proficient in science in control schools increased from 35% to 38%, the mean percent of students proficient in science in treatment schools increased from 39% to 40%.

- Where the mean percent of student proficient in writing in control schools dropped from 93% to 77%, the mean percent of students proficient in writing in treatment schools increased from 39% to 40%.

DCPS Data: Trends in teachers' grading of their own schools before and during the study period reveal a steady decrease in the percentage of teachers in treatment schools grading their school either "A" or "B" and a steady increase in the percentage of teachers in treatment schools grading their school either "D" or "F." Control schools show an inverse pattern, revealing a steady increase in the percentage of teachers in control schools grading their school either "A" or "B" and a steady decrease in the percentage of teachers grading their school either "D" or "F."

While all analyses are still ongoing, tentative and preliminary findings from both deductive and inductive analyses of qualitative data are beginning to identify cognitive factors that may serve to account for the counterintuitive quantitative trends. More specifically, interview and observation data are beginning to show that many teachers at treatment schools interpreted the intervention as "one more thing," and thusly were seemingly less motivated to complete the tasks associated with the intervention than the seeming minority of teachers that had "bought-in" and/or expressed a sense of "ownership."

Finally, MRSH's SLMS Attendance Logs reveal mixed levels of fidelity to the SLMS model. Each of the six "Action Teams" at each treatment school site were charged with participating in at least 14 professional development (PD) training sessions. This was not the case for each Action Team at each treatment school site. Moreover, teacher-comprised Action Teams were charged with meeting on their own (typically bi-weekly), making meeting agendas, and keeping meeting minutes. Field researchers discovered that only Action Teams at one of the three treatment schools held regular meetings, made agendas, and kept minutes.

### **Conclusions:**

*Description of conclusions, recommendations, and limitations based on findings.*

We make only tentative conclusions at this time, as analyses are ongoing and the study is not currently scheduled to commence until June 2013. Similarly, we make only tentative recommendations. Tentatively, we conclude the SLMS intervention shows promise for boosting student achievement outcomes, despite the descriptive quantitative trends implying otherwise. First, we're comfortable with this tentative conclusion at the time of writing given the intervention was implemented with low levels of fidelity. Second, though the case for a seeming minority of participants, those participants championing the intervention and carrying out associated tasks on a day-to-day basis steadfastly assert the intervention could "make this school a better place." Finally, we are beginning to see signs suggesting the structural dimension of the intervention indeed provides a form of school organization ripe for fostering vast and dense collegial ties not immediately evident in control schools. In terms of the "process" and "technical knowledge" dimensions of the SLMS intervention, we tentatively conclude these dimensions must be redesigned and further developed by MRSH in conjunction with study participants and researchers. In the name of exploring how contradictory findings can be used in future program design and implementation, we tentatively recommend the creation of a task force comprised of members from key stakeholders upon completion of the study. This task force should be comprised of MRSH developers, study participants, and researchers and should include a three-person leadership team comprised of a chair from each of the three populations.

## Appendices

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### Appendix A. References

*References are to be in APA version 6 format.*

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research*, 73, 125-230.

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Kilgore, S. B. & Reynolds, K. (2011). *From solos to systems: Reframing schools for success!*. Thousand Oaks, CA: Corwin.

Levi, M., Torrance, E. P., and Pletts, G. O. (1955). *Sociometric studies of combat air crews in survival training*. New York: Beacon House.

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## **Appendix B. Tables and Figures**

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N/A