8-1-2008

Cohesion, Instructional Time and Reading Performance at MUGC Summer Enrichment Program

Sandra S. Stroebel
Marshall University, stroebel@marshall.edu

Brenda S. Harvey
Marshall University

Stephen L. O'Keefe
Marshall University, sokeefe@marshall.edu

COHESION, INSTRUCTIONAL TIME AND READING PERFORMANCE AT MUGC SUMMER ENRICHMENT PROGRAM

By

SANDRA S. STROEBEL* BRENDA S. HARVEY** STEPHEN O'KEEFE***

** Assistant Professor, Marshall University Graduate College*
*** School Psychologist, Marshall University Graduate College*
**** Professor, Marshall University Graduate College*

ABSTRACT

As schools attempt to improve the services to struggling readers, teachers are encouraged to work collaboratively to enhance instruction. Studies are needed to examine the effects of teaming on student performance. The purpose of this study was to determine if team cohesion or instructional time at the Marshall University Graduate College Summer Enrichment Program (MUGCSEP) would be correlated with measures of reading performance for students who attended the program. Statistical analyses yielded a statistically significant correlation between cohesion, instructional time and reading performance during the 2006 program. While in 2007, instructional time was not significantly correlated, cohesion results yielded a mildly inverse statistically significant correlation with reading performance. Due to differences in assessment procedures between the years, this finding supports the possibility that team cohesion may be an important factor in the assessment of children's reading performance.

Keywords: Team Cohesion, Reading Performance Instructional Time Cohesion Instructional Time and Reading Performance at MUGC Summer Enrichment

INTRODUCTION

Due to changes in laws and current educational philosophy, schools are attempting to intervene early in reading and provide services within the regular education setting. In 2002, the reauthorization of the Elementary and Secondary Act also recognized as the No Child Left Behind (NCLB) Act strengthened the resolve to improve reading skills by intervening early (U.S. Department of Education, National Center for Education Statistics, 2006). This Congressionally approved landmark law, No Child Left Behind legislation demanded all students to be tested for adequate yearly progress, to determine mastery toward academic proficiency levels. The national policy required every school district to devote intensified attention and serious intervention towards the academic necessities of the multiple types of students at risk for reading failure (No Child Left Behind Act of 2001). Good, Simmons, and Kame'enui (2001) stated a dynamic, prevention-oriented, school-based assessment and intervention system intended to monitor the growth and development of children through critical early school years was necessary to prevent reading failure and ensure academic success for all students. In order to effectively provide these services, teachers with different educational backgrounds are working together. Literacy specialists, special education teachers and regular education educators are coordinating services to help children's literacy skills. While not referred to as teams, these teachers teach children in a coordinated effort. At the summer practicum site for the School Psychology Department at Marshall University Graduate College, the authors have been fostering team work for several years. Our study is an analysis of the relationship between reading performance and teaming.

Review of Literature

Team Cohesion

Teams are a group of people formed together to work for

a common goal. Teams in education consist of people with the common goal of effectively educating students. They are valuable because they utilize strengths and specialized skills from different individuals and perform tasks that may not have been easy or possible for one person (Iverson, 2002). In order for the teams to be successful they need to have a plan or "process" (Fleming & Monda-Amaya, 2001; Iverson). Team process is the way that a team works together, i.e. structure and communication, to successfully complete goals and tasks. The more the team understands and properly utilizes process, the more the team will be successful (Iverson).

A very important part of team process is group cohesion. A dictionary definition of cohering is "to stick or hold together in a mass that resists separation" (Costello, 1993). Therefore, team cohesion can be defined as a group of people that "stick" together and resist separation. In order to determine group or team cohesion many researchers have developed surveys or questionnaires for participants to complete (Dorn, Papalewis, & Brown, 1995; Fleming & Monda-Amaya, 2001; Mullen & Copper, 1994). These surveys include questions concerning trust, respect, inter-personal attraction, commitment to task, and group pride. An important part of group cohesion is the trust, a group has for its members (Iverson, 2002). Trusting team members, feeling safe in sharing ideas, and respecting for each other are highly rated for team cohesion (Fleming & Monda-Amaya). Cohesion can help a team member to be more committed to the group and the group goals (Dorn, et al.). In an integrated study by Mullen and Copper (1994), 49 studies were selected from over 200 articles, reports, or theses that researched group cohesion. From these 49 studies group cohesion was operationally defined as interpersonal attraction, commitment to task, and group pride. Previous research was unable to make a definite determination of cohesion on performance-effect. Mullen and Copper conducted a meta-analysis and reported that performance effect can be impacted by team cohesion. An inspection of the studies analyzed in this research found only groups within military, business, sports, and medicine. It does not appear that groups or teams in education have been researched in relation to the impact of cohesion. The authors were unable to find current research on team effectiveness in the field of education. As education has changed to include students in special education within a general education classroom, more teachers are being asked to teach as a team. Due to this new wave in education it is important that team cohesion as it relates to education be researched further.

Reading Performance

Reading is an essential component in the success of people in today's society (Reutzel & Cooter, 2004). Research indicates that failure in school, substance abuse, and criminal behavior can be linked to low reading achievement (Reutzel & Cooter). There is a need to improve the reading performance of children in the United States. The No Child Left Behind Act (NCLB), signed into law by President Bush in January 2002, gives flexibility for school districts to use federal funds, but also provides accountability for schools to educate all students (United States Department of Education, Office of Elementary and Secondary Education (U.S. Dept. of Ed), 2002). As a result of this act there has been an increased emphasis in reading. In the year 2000, less than 29 percent of all fourth-grade students performed at or above the proficient level in the National Assessment of Educational Progress in reading (U.S. Dept. of Ed). In order to address this issue, Title I, a federal reading program, uses its funds to target those schools with the most need. The program allows for flexible funding in order to provide additional staff, professional development, extended-time programs, and other strategies that will help to improve reading achievement (U.S. Dept. of Ed). Another program designed to help students' reading improvement is Reading First. This program helps states, school districts, and schools to ensure that all students are reading at grade level or above by the end of third grade (U.S. Dept. of Ed). It is clear from the NCLB act that reading is a concern for America's children and improvement of reading is the goal.

There have been many researchers attempting to

determine the best approach to improving reading skills in children. Some research indicates that an increase in instructional time will have an impact on reading performance (Harn, Linan-Thompson, & Roberts, 2008; Simmons, et al., 2007). Students who had fewer opportunities to engage in extended reading practice were at higher risk for low reading performance (Harlarr, Dale, & Plomin, 2007). The amount of time exposed to and engaged in reading is correlated with reading performance. Young students and at-risk readers also benefit from additional instructional time (Harn, et al.; Simmons, et al.). At-risk kindergarten students who were given an additional 15 minutes of highly specified instruction daily in addition to their regular classroom instruction had an improvement in reading skills (Simmons, et al.). Additionally, at-risk students who received 60 minutes of reading intervention daily for 24 weeks showed a significant increase in reading outcomes. This finding indicated that additional time impacted reading fluency (Harn, et al.). In order to measure reading performance and determine instructional needs, students are often given curriculum based assessments.

Curriculum-Based Assessment

In order to determine the instructional needs of a student to individualize reading instruction and resulting achievement, the student's current skill level needs to be assessed (Gravios & Gickling, 2002). Curriculum Based Assessments (CBA) are used to measure those skill levels as they pertain to the curriculum. They are also used to monitor progress and assist in the "matching" of instruction to the needs of the student (Gravios & Gickling). Gravios and Gickling (2002) describe an instructional match as, "the interplay between a student's existing prior knowledge, the student's capacity for information processing, and the demands presented by the learning task." Two CBAs that are research based and proven to be reliable and valid include, Running Records and Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

Purpose of this Study

The MUGCSEP uses multi-disciplinary teams to provide instruction to students. The purpose of this study is to evaluate the use of team teaching and to determine if the cohesiveness of teams and instructional time will correlate with reading performance.

Hypotheses

1. Higher team cohesion will correlate with a higher measure of reading performance.
2. More instructional time will correlate with a higher measure of reading performance.

Methodology

Marshall University Graduate College Summer Enrichment Program

The Marshall University Graduate College Summer Enrichment Program (MUGCSEP) is a lab school designed for practicum experience for graduate students. Graduate students from School Psychology, School Counseling, Reading and Special Education were assigned by program directors to a multidisciplinary team. These teams were first introduced during a three-hour orientation about four weeks prior to the start of the Summer Enrichment Program. During orientation, teams are provided an overview of the program as well as participate in team building exercises. Team collaboration was central to the program's philosophy. Training in team building, collaboration, and diagnostic teaching of reading occurred in the first week of the program. The youth arrived on the second week. The program schedule was Monday through Thursday from 7:30 AM to 1:30 PM for a total of six weeks (Krieg, Meikamp, O'Keefe, & Stroebel, 2006).

Each team was assigned a classroom of students that were multi-age, multi-ability with a full inclusion of students with special needs. The curriculum was literacy based and instruction was hands-on learning. The teams developed the classroom management plan and instructional activities. There was a 60 minute uninterrupted reading block each day. Students' instructional needs were assessed often with CBAs and the instructional activities were planned according to those needs. Each team was responsible for developing a portfolio of their work to include assessment data, lesson

plans, evaluation of the students' progress and program success. Therefore, it was imperative that these teams worked collaboratively to reach their goals. (Krieg, et al., 2006).

Subjects

The subjects of this study included 41graduate students in 2006 and 41 graduate students in 2007, both male and female, that attended MUGC and participated in the MUGC Summer Enrichment Program. These graduate students were seeking certification in one of four areas: School Counseling, School Psychology, Special Education, and Reading. In this study both male and female students who attended the MUGC Summer Enrichment Program in 2006 or 2007 were included. Participation in this program was voluntary, yet some students were enrolled to avoid retention for the upcoming school year or were struggling academically during the previous school year. In 2006, 62 students in grades ranging from 1st through 6th with complete data sets were chosen for this study. In 2007, 29 students in grades ranging from 1st through 6th were chosen. There were a smaller number of participants in 2007 because only students with complete DIBELS data sets were included.

Instruments

The instruments utilized in this study were Running Records in 2006, DIBELS in 2007 and a likert scaled thermometer reading from both years. Running records are informal assessment tools used by teachers to help to determine a student's instructional needs. It has high reliability at .90 (Reutzel & Cooter, 2004). Teachers assess students by listening to them read a passage from a leveled reader and by recording the number of errors the student makes. A percentage of words read correctly is calculated to determine at what level the student was able to read the passage and where to begin instruction for that student, 95-100% is Independent Level, 90-94% is Instructional Level, 80-89% is Frustration Level (Reutzel & Cooter). The data derived from the assessment could be used to develop an instructional plan for the student in order to improve reading performance.

DIBELS is a CBA that helps to identify students at risk for reading problems. The primary uses of DIBELS are to identify children in need of intervention and evaluate the effectiveness of intervention strategies. For prevention purposes, DIBELS can be used to measure growth on reading skills on an ongoing basis, predict outcomes on high-stakes tests, and provide instructional goals (Good, Gruba, & Kaminski, 2002). DIBELS was developed to be used often as a measure of growth; therefore multiple forms have been created that are brief, economical, and easy to administer (Good, et al.). Like Running Records, students read passages that are scored for accuracy. The reliability ranges from .90-.98. DIBELS has different subtests depending on grade level and need of students. The Oral Reading Fluency (ORF) and Retell Fluency (RTF) subtests were used for the purposes of this study. They are both intended for students from the middle of 1st grade through 6th grade. The ORF uses a grade level reading probe that students are asked to read for one minute and the administrator records words omitted, substituted or hesitations of more three seconds as errors. After reading the passage the student is asked to retell what they read for purposes of the RTF. The number of words used to correctly retell the story is recorded. A score is calculated and used to determine instructional need. If a student meets the appropriate grade level score they are considered to be at benchmark and their instructional needs are being met. Students whose scores are considered to be emerging are at the strategic level and may need additional intervention. Students whose scores are considered to be a deficit are in the intensive level and need substantial intervention (Good, Kaminski, & Dill, 2002).

In addition to Running Records and DIBELS a weekly anonymous survey was given to the graduate students (See Appendix). This was developed by MUGCSEP for use in the program. For this survey students were asked to use a likert rating from 1 to 10 (1 being the lowest) of how they felt their team did during that week. The only identifying information on the survey was the team number where the student belonged.

Procedures/Data Collection

Data were collected during 2006 and 2007 by graduate students, some participating in the MUGCSEP, and others who were recruited by the school psychology department. During the Summer Enrichment Program students were given a curriculum based assessment at the beginning, middle and at the end of the session, either Running Records in 2006 or DIBELS in 2007, to determine the instructional need and gain. The end of program data was used for the measure of reading performance in this study because it was thought that this was when team cohesion should have the most impact.

During the five weeks of the program students received a minimum of 60 minutes of reading instruction daily. The instruction was provided by a multi-disciplinary team of MUGC graduate students working on certification in reading, special education, school counseling, or school psychology. During the 6 weeks of the Summer Enrichment Program each member of the team rated how they felt their team was doing, using a likert scale with 1 being the lowest to 10 being the highest.

The Running Record data collected in 2006 was derived from Teams 2 through 4 and 6. Students in Team 1 were in Kindergarten and did not have enough reading ability to participate in Running Record assessments. The data for Team 5 was missing.

Using the DIBELS data collected in 2007 it was determined that Teams 3 through 7 would participate in this study. Teams 1 and 2 were Preschool and Kindergarten students and were too young for the Retell Reading Fluency part of the assessment used in this study.

Results

The cohesion scores for the teams were added for each week and the standard deviation was calculated for each team to determine variance. The higher the variance of the team the less the team was cohesive. In order to analyze the reading performance using the Running Record data, each book level was deemed one point. For example: if a student was assessed using a K level book their performance level was an 11. Scores for fluency were used to calculate the DIBELS data. Instruction time was calculated by determining the attendance for each student. Since each student received an hour of literacy for each day of the program, days were equivalent to hours of literacy instruction.

A Kendall's Tau Correlation Coefficient was used to analyze the ranked data. Results of this study indicate that in 2006 there was a statistically significant correlation between cohesiveness and reading scores as assessed by the Running Records ($r = .580$, $p < .01$) (See Table 1). This finding indicates that the teams with higher cohesion had higher reading performance. In 2007 there was a mildly statistically significant inverse correlation between cohesiveness and reading performance as assessed by DIBELS ($r = .292$, $p < .05$) (See Table 2). This result indicates that the teams with higher cohesion had a lower measure in reading performance.

	Running Record	Hours of Instruction	Cohesiveness	Age
Running Record	1			
N	62			
Hours of Instruction	.327**	1		
N	62	73		
Cohesiveness	.580**	.366**	1	
N	62	62	62	
Age	.563**	.229*	.679**	1
N	62	73	62	93

** p< 0.01 level

Table 1. Correlation of Variables for 2006

	DIBELS	Hours of Instruction	Cohesiveness	Age
DIBELS	1			
N	29			
Hours of Instruction	.226	1		
N	11	11		
Cohesiveness	.292*	.502	1	
N	28	11	28	
Age	.305*	.462	.289	1
N	29	11	28	91

** p< 0.05 level

Table 2. Correlation of Variables for 2007

Results also indicated a statistically significant correlation between the amount of instructional time and reading scores as assessed by Running Records ($r=.327$, $p<.01$) (See Table 1) in 2006. This means that the more instructional time the student had, the higher the measure of reading performance. However, in 2007 there was not a statistically significant correlation between instructional time and reading performance as assessed by DIBELS ($r= .226$, $p>.05$) (See Table 2). The lack of significant correlation indicates that instructional time did not have a relationship with the measure of reading performance in 2007.

A rival hypothesis for the significant differences may be the age of the students. Adjusting for age effects, there was still a significant effect of cohesion on reading performance with a partial eta squared of .196 ($p>.001$). Thus 20% of the variance was explained by team cohesion after controlling for age effects.

Discussion

An analysis of the relationship of team cohesion, instructional time and reading performance was conducted. It was hypothesized that higher team cohesion would correlate with a higher reading performance as measured by a CBA. Consistent with this hypothesis, the 2006 Running Record results yielded a statistically significant correlation between team cohesion and reading performance. These results were consistent with research that indicates team cohesion can impact task performance (Mullen & Copper, 1994). Even when an adjustment was made for age effects, team cohesion was significant. Yet contrary to what was expected, a mildly statistically significant inverse correlation was found for the 2007 DIBELS data. This seems at first to suggest that team cohesion is not an important factor. Closer analysis of the procedures of administration revealed that team members evaluated the students in 2006 using Running Records while in 2007, graduate students from the School Psychology Program who were not in the MUGCSEP did the majority of the evaluations. Thus the administration of the assessment by a non-team member, removed the effect of team cohesion and student/teacher relationship from being assessed. What it did demonstrate is that children did not perform as well on reading tasks when assessed by non-team members. This suggests that when CBA's are given by individuals unknown to the student, their performance may be lowered. Studies assessing this phenomena were not found in the literature. If students perform better when evaluated by a familiar person who is from a cohesive team rather than a stranger, this will have an impact on testing in the schools. When schools are making decisions about whether teachers or trained specialists evaluate students, knowing if performance can be affected by the child's relationship to the evaluator is important.

When examining the relationship between instructional time and reading performance, it was hypothesized that more instructional time would correlate with a higher measure of reading performance. Studies indicate that the more time students spend on reading the higher will be their reading performance, (Harn, et al., 2008; Simmons, et al., 2007). Results in 2006 yielded a statistically significant correlation between instructional time and reading performance, supporting previous research studies and the hypothesis. However, results in 2007 were not significant. This unexpected result may be due to the small n in 2007. Missing data sets resulted in a small sample size for this variable.

Another variable which may have impacted on the difference in findings were that two different CBA's were used to evaluate the children. This variable will need to be controlled in future studies to further examine the relationship of cohesiveness and familiarity on the evaluation of reading performance.

Conclusion and Limitations

Children appear to perform better when evaluated by a familiar examiner who is from a cohesive team. In order to provide optimal testing situations, children should be evaluated by their instructors rather than a stranger brought into evaluate children's skills. It appears important that all the individuals working with the child to provide quality instruction need to strive to work cooperatively. One of these individuals should be selected to assess the

child's performance rather than relying on external experts. If experts want to evaluate children, they should be included as part of the instructional team for students.

A limitation of this study was that students were voluntary and were not randomly selected from the general population. The ability to generalize the findings of this study to the general population was limited because the data utilized in this study is mainly students who struggle academically in a limited geographical area. A broader population needs to be evaluated to correct this limitation.

References

[1]. Costello, R. B., et al. (1993). *The American Heritage College dictionary.* (3rd ed.). Boston: Houghton Mifflin Company.

[2]. Dorn, S. M., Papalewis, R., & Brown, R. (1995). Educators Earning Their Doctorates: Doctoral Student Perceptions Regarding Cohesiveness and Persistence. *Education*, 116, 305-315.

[3]. Fleming, J. L., & Monda-Amaya, L. E. (2001). Process Variables Critical for Team Effectiveness. *Remedial & Special Education*, 22, 158-172.

[4]. Good,R. H., Gruba, J., & Kaminski, R. A. (2002). Best Practices in Using Dynamic Indicators of Basic Early Literacy Skills (DIBELS) in an Outcomes-Driven Model. In A. Thomas, & J. Grimes (Eds.), *Best Practices in School Psychology IV* (pp. 699-720). Bathesda, MD: National Association of School Psychologists.

[5]. Good, R.H., Kaminski, R. A., & Dill, S. (2002). *Dynamic Indicators of Basic Early Literacy Skills 6th Edition: Administration and Scoring Guide*. Retrieved July 17, 2008, from University of Oregon: Institute for the Development of Educational Achievement Website: https://dibels.uoregon.edu/measures/files/admin_and_scoring_6th_ed.pdf

[6]. Good, R. H., Simmons, D. C., & Kame'enui, E. J., (2001). The importance and decision making utility of a continuum of fluency-based indicators of foundational reading skills for third grade outcomes. *Scientific Studies of Reading, 5* (3), 257-288.

[7]. Gravois, T. A., & Gickling, E. E. (2002). Best Practices in Curriculum-Based Assessment. In A. Thomas, & J. Grimes (Eds.), *Best Practices in School Psychology IV* (pp. 657-669). Bathesda, MD: National Association of School Psychologists.

[8]. Harlarr, N., Dale, P. S., & Plomin, R. (2007). Reading Exposure; A(largely) Environmental Risk Factor with Environmentally-Mediated Effects on Reading Performance in the Primary School Years. *Journal of Child Psychology and Psychiatry*, 48, 1192-1199.

[9]. Harn, B. A., Linan-Thompson, S., & Roberts, G. (2008). Intensifying Instruction. *Journal of Learning Disabilities*, 41(2), 115-125.

[10]. Iverson, A. M. (2002). Best Practices in Problem-Solving Team Structure and Process. In A. Thomas, & J. Grimes (Eds.), *Best Practices in School Psychology IV* (pp. 657-669). Bathesda, MD: National Association of School Psychologists.

[11]. Krieg, F. J., Meikamp, J., O'Keefe, S. & Stroebel, S. S. (2006). Field-based Experience in Light of Changing Demographics. *Trainers' Forum*, 25, 15-17.

[12]. Mullen, B., & Copper, C. (1994). The Relation Between Group Cohesiveness and Performance: An Integration. *Psychological Bulletin*, 115(2), 210-228.

[13]. No Child Left Behind Act of 2001: *Reauthorization of the elementary and secondary education act legislation and policies.* Retrieved April 1, 2007 from http://www.ed.Gov/offices/OESE/esea/.

[14]. Reutzel, D. R., & Cooter, R. B., Jr. (2004). *Teaching Children to Read: Putting the Pieces Together* (4th ed.). New Jersey: Pearson.

[15]. Simmons, D. C., Kame'Enui, E. J., Harn, B., Coyne, M. D., Stoolmiller, M., Santoro, L. E., et al. (2007). Attributes of Effective and Efficient Kindergarten Reading Intervention: An Examination of Instructional Time and Design Specificity. *Journal of Learning Disabilities*, 40(4), 331-347.

[16]. United States Department of Education, Office of Elementary and Secondary Education. (2002), *No Child Left Behind: A Desktop Reference.*, Washington, D.C.

[17]. U.S. Department of Education, (2006) Institute of

Education Science, National Center for Educational Statistics, National Assessment of Educational Progress (NAEP) selected years, 1971-2004. *Long-Term Trend Reading and Mathematics Assessments*.

Appendix

Date

Team _____

Please answer the following questions using a scale from 1 to 10:

Circle your response.

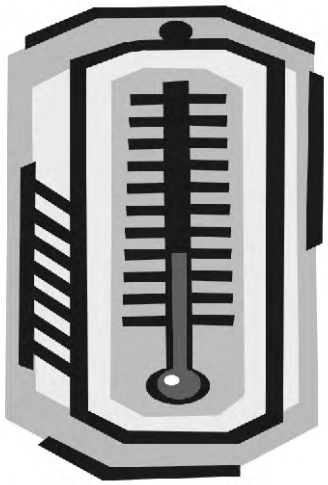
1 = poor 10 = excellent

1. How have you done this week?

1 2 3 4 5 6 7 8 9 10

2. How did your team do this week?

1 2 3 4 5 6 7 8 9 10



ABOUT THE AUTHORS

Dr. Sandra S. Stroebel teaches in the School Psychology Department at Marshall University Graduate College and is the Coordinator of Field Experience. She recently co-authored a chapter in "Best Practices for School Psychologists".

Ms. Harvey recently completed the degree requirements for a specialist in School Psychology and is currently employed as a School Psychologist in Virginia.

Dr. O'Keefe has a dual appointment in School Psychology and Clinical Psychology at Marshall University Graduate College. He has written numerous articles on developmental issues with children.