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Principals' and Teachers' Reports of Instructional Time Allocations in Third Grade

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Abstract: Using a paired national cross-section of third grade teacher and principal Schools and Staffing Survey data from 2007 to 2008, comparisons were made regarding teachers' and elementary principals' reports of instructional time distributions for English Language Arts, mathematics, science, social studies, and reading in third grade during a full week of school. Examining how the two most fundamental personnel of schools converge and diverge in their reports of instructional time allocations, allowed researchers to compare, first, how teachers and principals report instructional time uses by subject area, and second, to determine if there were differences in reported time allocations between teachers and principals. Researchers were specifically interested in determining if reported time provided evidence of educational problems associated with instructional time as there were conflicts in: (1) time as a function of administration and (2) time as a function of the classroom. Furthermore, results yield evidence of marginalization of social studies at the classroom level.

Keywords: School Administration; NCLB; Elementary School; Instructional Time; High Stakes Testing; Accountability; National Center for Education Statistics (NCES) Schools and Public School Teacher and Principal Staffing Survey (SASS); English Language Arts; Mathematics; Science; Social Studies; Reading; Instructional Time Allocation; Elementary School Teachers; Elementary School Principals; Core Subjects and Instructional Time Allocations.

How time is perceived, based on the position one has in relation to the classroom (Hargreaves, 1994; Werner, 1988), is an important consideration given that time is a measure of students' opportunity to learn (Walsh, 2007). Instructional time allocations describe the manner in which schooling is structured and establish parameters for how learning is prearranged (Stallings, 1980). Jane Stallings (1980), in her research on effective schools, stated that time allocated "defines the maximum amount of time available for instruction" (Stallings, 1980, p. 1) and argued that time provides a measureable variable of learning opportunities. While allocations of time are not the sole determinant of learning, time is a central facet in describing academic learning time accessible to students (Walsh, 2007). Although simply increasing time may not automatically lead to increased student achievement (Nelson, 1990), large cumulative differences in time have been found to impact overall learning (Jacobson, 1986; Lavy, 2010; Walberg & Fredrick, 1991). Thus, time is recognized as an essential aspect of instruction, necessary for promoting student performance and desired achievement outcomes (Berry, Smylie, & Fuller, 2008; Hirsch, 2005, 2010; Hirsch & Church, 2009; Hirsch, Emerick, Church, & Fuller, 2007; Ladd, 2009; Reeves, Emerick, & Hirsch, 2006). When time is viewed as a resource for instruction, time allocations serve as a baseline for pedagogical decision-making and can be useful in providing guidance for how time might be used effectively to support student learning (Lavy, 2010; Stallings, 1980).

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Time also provides a quantifiable measure of how the schooling environment is experienced by those who enact and direct curriculum. In accordance with Hargreaves (1994), "time is a fundamental dimension through which teachers' work is constructed and interpreted by themselves, their colleagues and those who administer and supervise them" (p. 95). Instructional time allocations articulated by schools' fundamental personnel—teachers and principals—suggest how academic learning time manifests in the structure of the school day. In this capacity, time also provides a context for examining teachers' work and is consistently documented as a fundamental issue for teachers (Berry et al., 2008; Hirsch, 2005, 2010; Hirsch et al., 2007, Hirsch & Church, 2009; Ladd, 2009). While instructional time is also a concern for principals, time surfaces more as school scheduling challenges than daily workplace issues (Reeves et al., 2006). Moreover, teachers' and principals' perceptions of time provide insights into how time is leveraged both in the planning of instructional time and how time schedules are created to address educational policy and accountability mandates. Aspects of instructional time are understood in the manner in which administrators and teachers articulate time distributions among core academic subject areas prior to instructional delivery. Thus, reported time allocations describe the bulwark of what subjects are studied in schools, further defining the opportunities to learn. Moreover, allocations provide the basis for determining congruence between administrators' and teachers' perceptions of instructional purpose and collective school vision (Blase & Kirby, 2009).

It is well established that time is associated with subject matter prominence and the stratification of instructional resources (Apple, 2004; Hargreaves, 1994; Werner, 1988). This is a well-documented concern in social studies research (Au, 2007, 2009; Heafner & Fitchett, 2012; Wills, 2007). Teachers spend more time on tested subject matter than non-tested subject matter (McMurrer, 2007, 2008) and time decisions are often driven by administrative pushes to respond to accountability pressures (Heafner, Libscomb, & Rock, 2006; Rock et al., 2006; Vogler et al., 2007). Furthermore, constricted time inhibits instructional creativity, content resource choices and depth of learning opportunities (Pace, 2011; Wills & Sandholtz, 2009). Referring back to Hargreaves (1994), "time compounds the problem of innovation and confounds the implementation of change," (p. 95) as conceptualized in policy mandates and educational reform. For educational reform to be enacted, administrative and teacher agreement in shared educational goals must be present (Blase & Kirby, 2009).

In this quantitative study, we examined third grade teachers' and elementary principals' reported instructional time allocations during a full week of school. The subjectivity of participants' reported data is a central asset of this study, providing an interpretive understanding for how schools' two most fundamental personnel diverge in their conceptualization of instructional time. Using National Center for Education Statistics (NCES) Schools and Public School Teacher and Principal Staffing Surveys (SASS) from 2007 to 2008, the most comprehensive and nationally representative source of teacher and principal data in the nation (NCES, 2010), we paired a national cross-section of third grade teacher and principal data. We chose third grade as a key transitional point in elementary education, noting the point in schooling where early learning transitions from a literacy driven focus to broader content study and the national emphasis on high stakes testing begins. We compared participants' responses to a common question regarding instructional time 3rd grade students spend learning English Language Arts (ELA), mathematics, science, social studies, and reading.

Our primary purpose was to determine how allocated time was conceptualized and prioritized by administrators and practitioners with specific emphasis on the implications for social studies. We based our study on the belief that to understand how time manifests in academic environments, descriptions

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of time allocations for instructional purposes must be the baseline for analyses. We hypothesized that within a school there would exist a general agreement in how instructional time is used for teaching core academic content (cf. Blase & Kirby, 2009). We also hypothesized that prioritization as defined by distributions of time allocations would align with national subject area priorities reflected in policy and accountability measures. Thus, we designed a multi-purpose study to: 1) provide a generalizable, descriptive analysis of how time is allocated by subject area, 2) determine if there were differences in teachers' and principals' reports in time usage across core academic content, 3) examine the significance of time distributions between teachers and principals, and 4) evaluate reports of reading time for evidence of integration of core subjects. The following research questions guided our analysis of this nationally representative sample of 3rd grade elementary school teachers and principals:

- How much time do elementary teachers and principals report being allocated in 3rd grade to English Language Arts, mathematics, science, and social studies?
- To what extent is there a statistically significant difference between 3rd grade reported time allocation differences between teachers and principals and core subject area differences?
- Within English Language Arts, how many minutes do elementary teachers and principals report allocated to reading in 3rd grade?
- To what extent does reported time differ between teachers and principals for reading in 3rd grade?
- To what extent are 3rd grade reading, social studies, and/or science time allocations related?

Method

Sample[i]

For this study, we examined data from the National Center for Education Statistics (NCES) Schools and Public School Teacher and Principal Staffing Surveys (SASS) from 2007 to 2008. This database is the most comprehensive and generalizable source of teacher and principal data in the nation (Coopersmith & Gruber, 2009). NCES uses a stratified probability sample design for collection of SASS data. Principals and teachers nested within their schools were selected from a national, stratified sample of schools. Stratification levels included the number of minority teachers at the school, urbanity and region. An inverse-probability equation was devised to select and weight teachers within a given school. Weighting was dependent on location of schooling institution. This protocol prevented overrepresentation from a particular region or state and increased generalizability of the sample. To determine the likelihood of Type II error (failure to reject the null hypothesis), we calculated statistical power. Statistical power, in probability terms, provides the capacity to test the extent of significance of results. Due to the large sample size, power in this study is equal to one (p=1.0); thus, reducing the likelihood of Type II error.

Further, we paired 2007–2008 SASS elementary school principals (n=1430) and third grade teachers (n=1550) under their supervision to examine how differences in core content instructional time is reported. We defined core content as: English Language Arts, mathematics, science, and social studies. Within English Language Arts, we also examined the proportion of time allocated for reading. In aligning principal and teacher data, we included only teachers of self-contained 3rd grade classrooms. This decision was based on the structure of the principal survey question and the nature of classroom instructional decision-making. Specifically, we chose 3rd grade as a key transitional point in elementary education, noting the point in schooling where early learning transitions from a literacy driven focus to broader content study and the national emphasis on high stakes testing begins. In addition, we were

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able to identify teachers nested within schools, thus, pairing teachers with principals. We filtered teacher data by self-contained classrooms allowing us to examine issues related to teachers' instructional time allocation and ensuring that each teacher was responsible for the instruction of all core academic content.

When critics argue that self-reported data fail to provide an accurate portrayal of teachers' time allocation and instructional decision-making, they imply that participants' responses are biased due to social desirability – skewed reporting in order to be perceived positively by others (Nederhof, 1985). NCES employs a number of methods to examine both the validity and reliability of items within the Schools and Staffing Survey, such as an anonymously conducted survey and the nature of the survey does not promote any particular direction of research (i.e., a study on the allocation of time) (NCES, 2010). While research suggests that anonymous surveys produce far less socially biased results than self-administered instruments (Nederhof, 1985), we acknowledge that it is possible that participants may have felt compelled to distort their responses. We consider this aspect of subjectivity central to our examination of congruence in administrative and teacher time perceptions. Given the large sample size of our study, we infer that our findings provide greater generalizability than smaller sample, qualitative studies and offer a broader understanding of how time is allocated for core subject areas.

Procedure

To examine teachers' and principals' time allocations for core content (English Language Arts, mathematics, science, and social studies), we selected a common question on both the principal and teacher surveys:[ii]

SASS 07/08 Teacher Question #20:

> During your most recent full week of teaching, approximately how many hours did you spend teaching each of the following subjects at this school? [ELA, of these hours, how many were designated for reading instruction?]

SASS 07/08 Principal Question #26:

> During a typical full week of school, approximately how many minutes do most third grade students spend on the following activities at this school? [ELA, of these minutes, how many were designated for reading instruction?]

A difference in the metric (hours and minutes) between the two items is attributed to two factors (K. Gruber, personal correspondence, December 2, 2010). First, the SASS teacher time allocation items were initially developed for the 1987/1988 survey. In comparison, the SASS principal time allocation items were not introduced until the 2007/2008 survey. Survey developers also rationalized that teachers completing the time allocation items self-identified as self-contained teachers and would make hourly estimates of instructional time. In comparison, principals administrate over faculty in which some teachers would be self-contained while others might be single-subject specialists. Thus, principals would be more inclined to envision time in minutes per content area. To align teachers' and principals' responses to the selected survey questions, we converted teachers' responses in hours to minutes. We multiplied teacher data by sixty minutes. For an examination of the cumulative effect of time allocations, we calculated total hours per week with an estimation of 6 hours per day used for

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instructional time for an average of 5 days per week. Annual estimations of time were based on average length of the school year as 36 weeks.

Results

Our purpose was to understand, first, how teachers and principals perceive instructional time uses by subject area, and second, if there were differences in reported time allocations between teachers and principals. Findings are described as perceptions of: 1) time allocations by subject area, 2) differences in time allocations for core content, and 3) time usage for reading. Reported time allocations provided the basis for examining the malleability of time in association with social studies as both a stand-alone subject, integrated content within ELA and reading, and subject area competition for shared or alternated time with science.

Time Allocations by Subject Area

Elementary teachers' and principals' reported time distributions in 3rd grade for each of the core content areas: English Language Arts, mathematics, science, and social studies are presented in Table 1. Additional analyses of teacher and principal data were performed to explore perceptions of time differences. Figure 1 illustrates the distribution of instructional time on a weekly basis as reported by survey respondents. Supporting previous research (Siskin, 2003), findings indicate that a consensus in reported time allocated for mathematics instruction is shared by administrators and teachers. Of the remaining core academic content, divergence between principals' and teachers' perceptions of instructional time allocations was observed.

Table 1. *Average Academic Instructional Hours per Day for Core Academic Content Reported by Teachers and Principals*

Daily Hours Allocated to Teaching Core Academic Content		
Content Area	**Teachers**	**Principals**
English Language Arts	2 hours 22 minutes	1 hour 54 minutes
Mathematics	1 hour 10 minutes	1 hour 9 minutes
Social Studies	45 minutes	51 minutes
Science	45 minutes	52 minutes
Total Academic Core Instructional Hours	4 hours 22 minutes	4 hours 6 minutes

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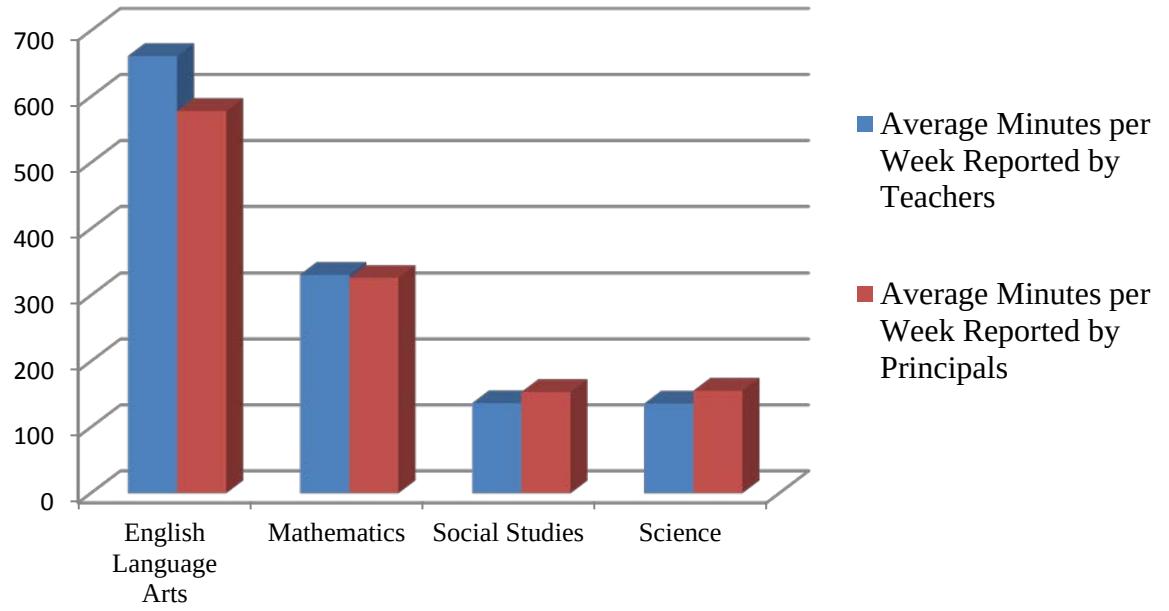

Figure 1. Comparisons of reported core content instructional time in minutes per week

In examining differences (see Table 2), teachers reported 83.3 more minutes (or slightly less than 1.5 hours) of instructional time per week for ELA than principals. The annual perceived difference translates to approximately 50 hours (2999 minutes) more of reported instructional time per year. While principals indicated fewer minutes of weekly instructional time for ELA, they reported 16.85 more minutes per week for social studies and 19.54 more minutes per week for science than the time teachers stated that they allocated for these subjects. Annual differences in teachers' reported instructional time equates to a perceived differences of 10.1 hours less for social studies and 11.72 hours less for science than principals' reports.

Table 2. *Instructional Minutes per Week for Core Academic Content Reported by Teachers and Principals*

	Minutes per Week			
Academic Content Area	**Teacher** **M**	**(SD)**	**Principal** **M**	**(SD)**
English Language Arts	661.39	(260.3)	578.13	(202.97)
Mathematics	331.24	(128.7)	326.55	(99.83)
Social Studies	136.45	(98.83)	153.3	(75.92)
Science	135.6	(95.09)	155.14	(75.51)

Using 6 hours as the average length of the elementary instructional day, we calculated reported time allocation distributions by core academic content areas. Proportion of time was determined by total

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minutes per week divided by the average total available instructional minutes per week. Comparisons across teacher and principal data are presented in Figures 2 and 3. For teachers, over 70% of the instructional day is viewed as being devoted to core academic content. Similarly, principal data suggest that administrators view that core academic content accounts for 67% of daily instructional time.

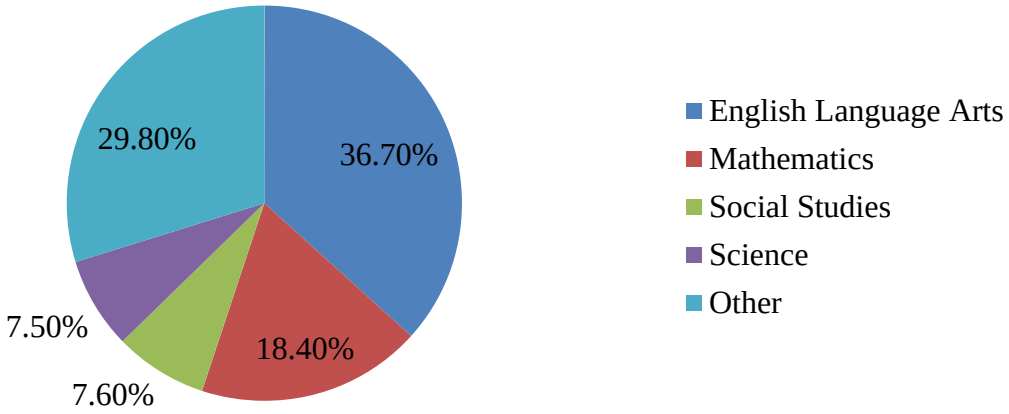

Figure 2. Teachers' reported proportion of weekly instructional time usage by content area

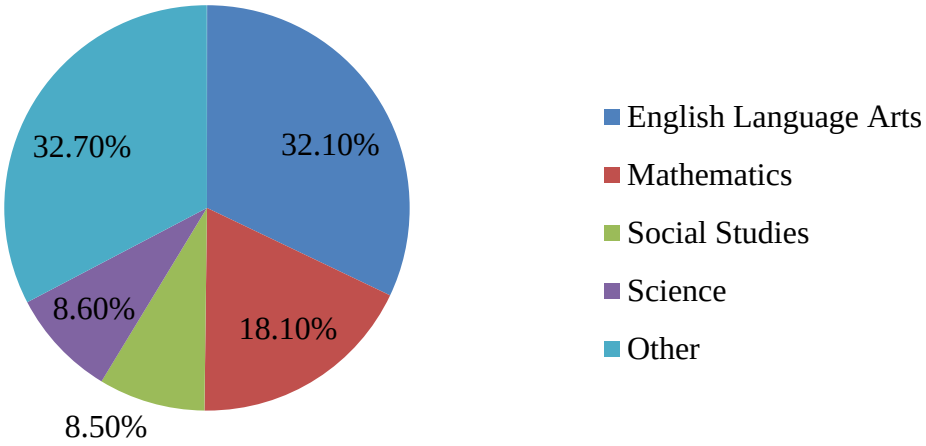

Figure 3. Principals' reported proportion of weekly instructional time usage by content area

Further examining the reported time distributions for academic core content (see Figures 4 and 5), principals' perceptions suggest a difference of 16 fewer minutes per day, which translates annually into 12 days of core academic content instruction. Principals indicate greater reported time allotments than teachers do for enrichment activities. If proportion is an indication of how subject areas are prioritized, then teachers view the hierarchy of time for core content as follows: ELA, mathematics, social studies and science; whereas, principals view distributed time allocations in the following order: ELA, mathematics, science and social studies. Data affirm general agreement in how much time is allocated for mathematics instruction as well as the imbalance of proportional core instructional time devoted to ELA (4.5% greater for teachers). The overemphasis of time for ELA could be an indication of teacher

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decision-making to devote more time than scheduled to a subject area in which other content could be integrated. Teachers', not principals', priorities of social studies before science could offer further evidence that social studies could be ELA integration fodder in 3rd grade classrooms. A difference emerges when reported time differences are compared for science and social studies. Combined science and social studies instructional time allocations as viewed by principals are 3.9% greater than the time teachers suggests that they allocate to these subject areas.

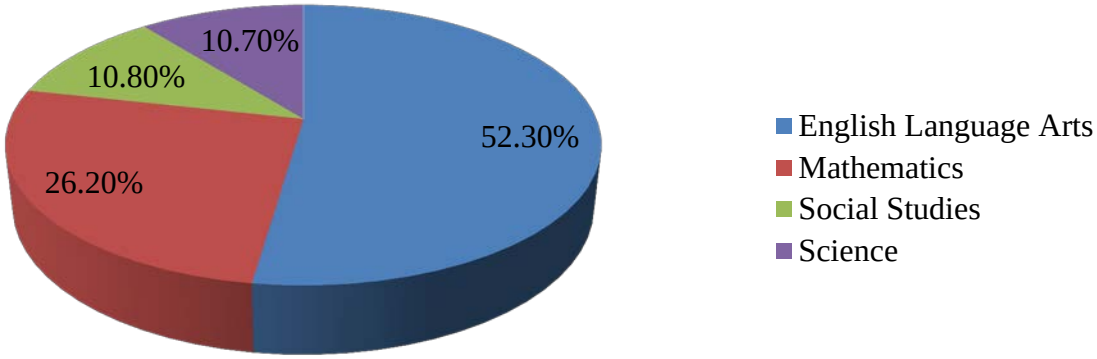

Figure 4. Teachers reported proportion of weekly academic core content instructional time usage by content area

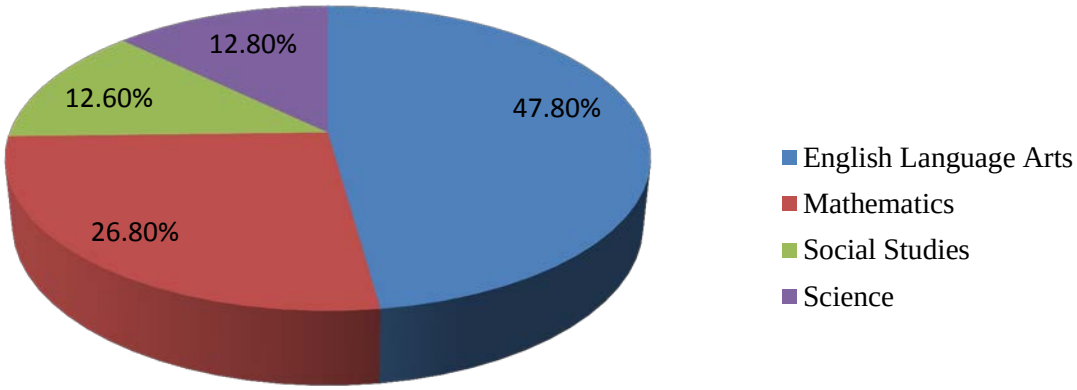

Figure 5. Principals reported proportion of weekly academic core content instructional time usage by content area

Differences in Time Allocations for Core Content

We also examined how time allocations differed between teachers and principals for core content areas in 3rd grade and if these differences were statistically significant. Using a matched-samples *t*-test, we compared differences in teachers' reports and their paired principal's reports of instructional time allocations by content area (see Table 3). We acknowledge that effect sizes were statistically small. However, the interpretation of discrepancies between teachers' and principals' perceptions suggest observed differences in how each group conceptualizes instructional time usage. Comparisons indicate that over a given academic year (36 weeks) teachers report spending approximately 595 minutes (10 hours) less time on social studies instruction and 688 minutes (11.5 hours) less time on science

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instruction as compared to principals' projections of time usage within their schools. Given that research (Heafner & Fitchett, 2012) has documented that teachers spend on average 2.5 hours per week on social studies, and 2.5 in science, these statistically significant differences equate to approximately one month of reported instructional time in each subject. Curiously, reported time allocations between teachers and principals for science and social studies only account for 46% of the ELA time differences.

Table 3. *Matched Samples t-test of Differences in Teacher and Principal Reported Time by Content Area*

Content Area	***M*** **teacher-principal**	**df**	***t***	**η^2**
English Language Arts	82.8	1370	10.00**	0.068
Mathematics	3.85	1370	0.942	
Social Studies	-16.52	1370	5.19**	0.02
Science	-19.1	1370	6.26**	0.028

**p<.001

In order to examine whether teachers exhibit greater variability in their perceived allocation of instructional time than their principals, we employed Levine's Test for Equality of Variance to examine teacher-principal differences in standard deviation (variance) within content areas. Findings indicate that the difference in variance between principals' and teachers' reporting of instructional time was statistically significant at each content area (Table 4).

Table 4. *Difference in Variance between Teacher and Principal Time Allocations*

Content Area	**Levene's F (1, 2920)**	**Sig.**
ELA	60.413	.01
Math	47.19	.01
Science	67.73	.01
Social Studies	94.073	.01

Additionally, we examined relationships between reported time differences and content areas. We were interested in the extent to which teachers' time allocations for ELA were associated with time allocations for social studies and science. We calculated correlations evaluating differences in teachers' and principals' reported allocations of time for ELA and social studies as well as correlations for ELA and science. Comparisons were made between teacher-principal differences in ELA time and teacher-

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principal social studies time and between teacher-principal differences in ELA time and science time.[iii] Pearson correlations for social studies, r=.068, n=1370, p<.05, and science (r=.100, n=1370, p<.01) suggested a significant association between the differences in principals' and teachers' reported ELA and social studies/science instructional time.

Time Usage for Reading

Within English Language Arts (ELA), we evaluated how many minutes elementary teachers and principals perceived to be allocated to reading in 3rd grade. We examined data for reading based on the perspective that reading could provide the context for understanding subject integration, a common practice for social studies instruction, in elementary schools (see Table 5). Differences between teachers' and principals' reported use of ELA time for reading were statistically significant; whereby, teachers indicated a greater amount of ELA instructional time devoted to reading than their principals. Evidence suggests that teachers are diverging from school time allocations as articulated by principals to restructure time for literacy priorities.

Table 5. *Average ELA Instructional Minutes per Week Allocated for Reading as Reported by Teachers and Principals*

	Minutes per Week			
	Teacher M	**(SD)**	**Principal M**	**(SD)**
Reading Time (Within ELA)	414.51**	(197.12)	328.12	(179.67)

**t (1420) = 14.17, p<.001, η^2=0.10

To examine whether teacher and principal reported reading time "absorbed" reported social studies (science) instructional time, we correlated teacher-principal differences.[iv] Results from a Pearson Correlation for social studies (r=.057, n=1360, p<.05) and science (r=.07, n=1360, p<.05) indicated a significant relationship between the level principal-teacher reading time discrepancy and principal-teacher social studies and science time discrepancy. Thus, data offer evidence that time differences in reading instruction can be associated with time differences for social studies and science instruction. Results offer the possibility that integration may be a common teacher choice in time usage for the dual purpose of disciplinary content instruction and additional literacy instruction. However, not all time differences in reading could be attributed to time absorption from these subjects, as noted by the small (albeit significant) correlation coefficients. Tradeoffs exist when integration supplants disciple-specific instructional time as reported by principals. Teacher decision-making to prioritize reading came at the expense of scheduled social studies and science time.

Discussion

Time is a resource for instruction and perceptions of how time is distributed during the elementary school day provides a context for examining the opportunities students have to learn content within various subjects, specifically social studies. Furthermore, documented impacts of curriculum time changes (Fitchett & Heafner, 2010; McMurrer, 2007, 2008) may be realized differently depending on the relative position an educator has to students. This study reveals divergence in instructional time

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allocations as articulated by schools' two most fundamental personnel and the tradeoffs of these differences. How perceived time usage was conceptualized from views of: (1) time as a function of school administration and (2) time as a function of the classroom. Differences in teachers' and principals' reported time allocations offer verification that perception of how time is distributed varies depending on the proximity to the classroom (Hargreaves, 1994; Werner, 1988). For example, teachers report spending less time in other core content and ancillary subjects than indicated by principals. We view these differences as possible indicators of discrepancies in valuing or prioritizing of content based on interpretations of educational policy and relative decision-making position in the implementation of mandated accountability measures (Apple, 2010; Hargreaves, 1994; Wills & Sandholtz, 2009). Principals' reported greater time allocations for traditionally non-tested subjects. The divergence from teachers' reports may be based on principals' distance from students. These views may also be informed by the established instructional day schedules that are often determined by school leaders and policy mandates defining minimum time allocations by subject areas. Moreover, data provide evidence of another layer of social studies marginalization in which schools convey in their time schedules a distinctly different disciplinary learning opportunity than what manifests within classrooms (Hutton & Burstein, 2008). These implications need to be addressed through future explorations of why perceived instructional time gaps exist between what is thought to be occurring in the classroom and what is viewed as occurring in the classroom.

Using proportional time allocations as an indication of how subject areas are prioritized, we infer that teachers' reportedly order core content instructional time differently from their administrators. The reversal of priorities for science and social studies is noted and one that might hold promise for social studies. Overall, the consensus prioritizing of ELA and then mathematics reflects national policy emphases (Fitchett & Heafner, 2010; Heafner & Fitchett, 2012; McMurrer, 2007, 2008), although there are statistically significant differences between principals' and teachers' reported instructional time for ELA. While this study only examined reported time distributions, there seems to be an indication that teachers perceive a need to spend more time on literacy than administrators may consider necessary. Teachers' overemphasis on literacy instructional time seems to reflect the view that developing literacy skills first is a foundation to all-future learning (Boyle-Baise, Hsu, Johnnson, Sierrere, & Stewart, 2008; Maeroff, 2006) and is recognized as an initial standardized measure of student achievement (NCLB, 2002). These inferences are supported by research suggesting teachers' decisions to reallocate time are due to perceptions of the hierarchical importance of subjects in addressing high stakes testing and accountability pressures (Fitchett & Heafner, 2010; Heafner & Fitchett, 2012; Crocco & Costigan, 2007; Wills, 2007). The fact that teachers' time priorities are not mirrored by their administrators' suggest that administrators may not experience pressures to redistribute time in a similar manner. Principals' under emphasis on literacy contrasts with teachers' overemphasis. In addition, principals' reported time allocations are more in alignment with national testing mandates in which science is emphasized. Why these differences occur and why principals underemphasize literacy as compared to their teachers are important considerations for future research.

Another possible interpretation is that ELA, not mathematics, is a content area that lends itself to integration of other subject areas, such as social studies. By increasing time for ELA, teachers may be creating space for content integration. The quality of integration is not measured in this study, but is an area for future research. However, divergence in principal-teacher time allocations should not be overlooked. At the classroom level, data suggest that students have less opportunity to learn social studies as a stand-alone subject. In comparing our results to a prior examination of SASS data (Piere,

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Baker & Bobbitt, 1997), 3rd grade teachers in this study reported greater proportional core academic instructional time (5%) for ELA and mathematics with strikingly less proportion of time (5%) spent teaching science and social studies. These overall differences in teachers' proportional distribution of time by core subject areas suggest an overemphasis on tested curricula at the classroom level and offer evidence of large scale impact of shifting teacher instructional time priorities in 3rd grade. These findings are supported in existing social studies marginalization research (Heafner & Fitchett, 2012; Burroughs, Groce, & Webeck, 2005; Heafner et al., 2006; Lintner, 2006; Rock et al., 2006; VanFossen, 2005; Wills, 2007). Based on the results of the Levene's Test in this study, we infer from the differences in variance, that teachers reported significantly greater variability in instructional time than principals. When faced with time constraints, teachers prioritized instructional time differently and expanded and/or contracted instructional time. The variance among teachers could possibly be linked with professional judgments in supporting student achievement on accountability mandates and a form of instructional time triage (Au, 2007, 2009; Fitchett & Heafner, 2010; Heafner & Fitchett, 2012; Thornton & Houser, 1996; VanFossen, 2005; Wills, 2007; Wills & Sandholtz, 2009; Zamosky, 2008).

Ironically, principals' proportional distribution of time for 3rd grade more consistently aligns with results from earlier research (Piere, Baker, & Bobbitt, 1997). We speculate that these findings suggest reported principal time priorities are indicators of administrative interpretations of instructional time expectations needed to balance educational policy reforms and political interests. In addition, principals' reports of time are representative of collective, building level uses of time. Thus, differences in time may indicate classroom level differences in time allocations (c.f. Wills & Sandholtz, 2009). Examining differences within schools is recommended for future research. Given the generalizability of the sample size within this study, findings suggest potential ramifications (e.g., opportunities to learn) of time differences and content prioritization as a result of administrative perceptions versus classroom teacher reported implementations (Apple, 2004; Hargreaves, 1994; Werner, 1988; Wills & Sandholtz, 2009; Zamosky, 2008).

Differences in time allocations between principals' and teachers' reports manifest as instructional time expansions and constrictions for ELA/reading, science and social studies. Findings might be explained by research suggesting that when external pressures to address standardized measures of learning are not met, teachers, not administrators, reallocate time for remediation (Wills & Sandholtz, 2009). Almost half of the instructional time differences for ELA can be explained as teachers report annually one month less of social studies and science instructional time than principals. We suggest that this divergence in reported reading time is indicative of curriculum and testing mandates that emphasize literacy skills – pressures that most often burden the practitioner over that of the administrator. These findings affirm theories of aforementioned time prioritization and are interpreted as instructional time triage (Hargreaves, 1994; Wills, 2007; Willis & Sandholtz, 2009).

Another intriguing finding of this study is the lack of statistically significant differences in instructional time allocation for mathematics among principals and teachers. Interpretations of consistency in instructional time allocations for mathematics offer insights into the potential variability of integration as a tool for addressing scheduling time constraints and policy mandates. We infer that instructional time agreement between principals and teachers for mathematics is reflective of perceptions that math instruction should occur as standalone instruction and is less likely to be integrated into other subjects (Marbach-Ad & McGinnis, 2010). These findings bring to light the potential learning opportunity

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differences as a result of an overreliance on integration as a means for teaching social studies in elementary schools (Boyle-Baise et al., 2008; McGuire, 2007).

Given that time allocation differences between teachers and principals for science and social studies only account for 46% of the ELA time differences, there is evidence that teachers' emphases on instructional time for ELA are being drawn from subjects beyond the scope of this study. Similar to the research conducted by Roth, Brooks-Gunn, and Linver (2003), these findings suggest that ancillary subjects outside the core content are also being affected. Additionally, we infer that principals report a more politically equitable distribution of time which is outlined in daily school schedules. This contrasts with time allocations teachers' report in which decisions to eliminate or keep ancillary subjects are based on professional priorities for children (Wills & Sandholtz, 2009).

Implications

The implications for social studies are a doubled edged sword. At the school level, there is an administrative perception that the opportunity to learn social studies in elementary school exists. However, these time allocations differ from how teachers report using instructional time. At the classroom level teachers are providing less stand-alone social studies time and they are devoting significant amounts of instructional time to ELA. While teachers may be making efforts to integrate social studies within increased ELA time, the association between reading and social studies/science time suggests that the time difference in comparison to administrative time cannot be explained by absorbed time alone. At the classroom level, students have more limited opportunities to learn social studies than principals indicate. Teachers and principals have a different understanding of baseline learning opportunities experienced by 3rd grade elementary students. Curricular priorities, with the exception of mathematics, are not consistent between teachers and administrators. Differences may be indicators of greater issues, such as a lack of shared purpose, collective vision for the school, or common understanding of educational policy (Blase & Kirby, 2009).

Experienced time becomes an outcome of the interplay among classroom participants and cannot be standardized. Classroom time is a scare resource and subjective decision-making by teachers occurs. We categorize the expansion or constriction of learning opportunities as instructional time triage. By triage, we argue that there are objective (administrative) parameters defining the amount of time available for instruction on a daily basis. Within these fixed time constraints of the average school day (e.g. approximately 6 hours, with 4 hours of that time devoted to core curricula), classroom decisions are made regarding how time is used, resulting in a top-down, tiered approach to the prioritization of time (see *Figure 6*).

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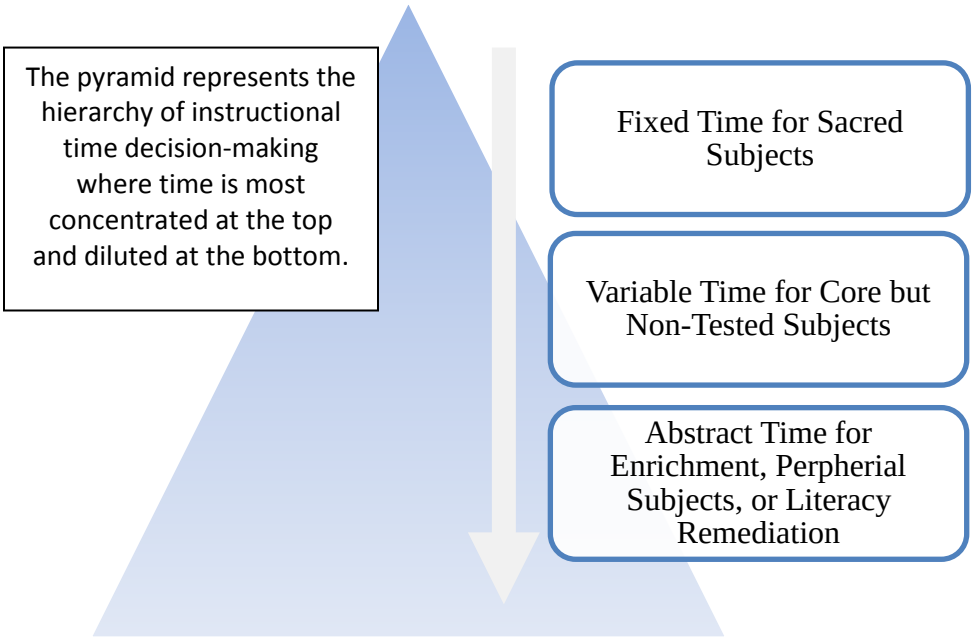

Figure 6. Pyramid of instructional time prioritization

In the first tier, fixed time, in the form of a daily school schedule is set for the sacred subjects, those externally evaluated and directly accountable to administrators, parents, policymakers, and the general public. The uniformity and standardization of time establishes minimum requirements to meet national performance measures. Principals' perceptions of time allocations are school level decisions and are positioned within this tier. In the second tier, classroom decisions have to be made for how to spend remaining malleable instructional time. These time allocations are highly variable; consequently, time allocations become subjective. Depending on decision-making processes, divergences in uses of time become evident as teachers make decisions to eliminate required curricula. Time allocations by subject area become more diluted as prioritizations of time, such as emphasis on literacy, are made by additional decisions to include or exclude opportunities for content integration and enrichment.

Limitations

We acknowledge that self-reported data may be construed as a limitation of this study but we view the possibility of subjectivity meaningful for interpretations of findings. Additionally, large-scale observation of teachers' allocation of instructional time as opposed to principals' administration of time was prohibitive; however, the SASS dataset is widely recognized as the largest, most generalizable survey of school personnel in the United States and provided the broadest representation of classroom and administrative perspectives on school time structures. Furthermore, we recognize that single item analysis is frequently plagued by low statistical reliability. Previous studies have confirmed that single-item analyses are appropriate when the item is narrowly defined, such as reported instructional time (teacher) or expected instructional time (principal) (Ilgen, Nebeker, & Pritchard, 1981; Wanous, Reichers, & Hudy, 1997). Finally, while teacher and principal responses were paired, it is important to note that the items responded by teacher and principal were not identical. We assert that these item

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differences reflect a professional schism in teachers' experienced, subjective time and the politically charged, objective brokers-of-time position held by administrators. Thus, it is the difference, discrete time, which remained essential to our analysis.

Conclusions

This study illustrates that the complexity of instructional time allocations. Results suggest considerable differences between teachers and administrators as noted in the divergence between time as a product of the classroom and time as a product of the school day. These differences affirm prior research indicating that substantial variance exists in how instructional time is translated into practice. Thus, time differences serve to explain a critical theory of how time manifests in both bureaucratic (administrative) and procedural (teacher) decision-making.

Our interpretations of results from this study lead us to conclude that teachers exercise some autonomy over their daily instructional time and that this has an effect on social studies instructional time. Teachers, as autonomous instructional gatekeepers, make decisions to allocate time based on what they perceive to be priorities of learning (Hargreaves, 1994; Thornton, 2005). These views of time priorities diverge from their administrators, creating unanticipated outcomes of policy expectations (Houston, 2007). The gap in shared beliefs about time uses poses administrative challenges in enacting educational reform and creates variance in content areas learning opportunities within schools (Blase & Kirby, 2009). Pressures to address high stakes testing and accountability measures to ensure literacy goals, rather than administrators, may be an explanation for why teachers reduce or even forgo teaching non-tested curricula. While we cannot infer directly from our data teacher motivations for decision-making, we can conclude that results indicate differences that are contrary to documented teacher perceptions of administrative control over both time and what is taught (Au, 2009; Heafner & Fitchett, 2012; Heafner et al., 2006; Rock et al., 2006; Vogler et al., 2007; Wills & Sandholtz, 2009). While teachers from prior studies indicated decisions to eliminate or reduce social studies as an outcome of administrative pressures, these decisions based on study results are more likely a classroom level decision. The extent of time allocated to social studies is associated with teacher decision-making.

Furthermore, administrators, as , brokers, hold a central role in guiding organizational time parameters, but control over time structures does not imply agreement in perceptions of time nor does it assure that social studies will be taught. If the divergence as realized in time reports is not addressed, Hargreaves (1994) would argue that "teachers' needs and demands generated from the particularities of the context may obstruct, undermine or redefine the purposes built into new administrative procedures and time designations and allocations which accompany them" (p. 105). Recognizing instructional time differences and exploring how teachers experience time when enacting curriculum and policy mandates are important considerations for administrators to adopt fixed time parameters that more authentically reflect the demands of diverse classrooms, complex student needs and content area learning. Additionally, addressing social studies marginalization requires increased collective dialogue and creative solutions to perceived time differences (Blase & Kirby, 2009). Since time is a function of classroom instruction and is shaped by the manipulation of instructional time, realistic time allocations should comprise both administrative and teacher perceptions of time, prioritization of time usage, and shared control over time decisions. Results from our study affirm a need to develop within schools a, "sensitivity to lived-time and a willingness to continuously modify timelines, as well as openness to criticism of the reasons for how time is allocated" (Werner, 1988, p. 107). For this to be realized,

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collective questions need to be raised as to how much time should be devoted to literacy instruction in order to meet federal and state mandates, as well as, whether or not foregoing less prioritized curriculum, like social studies, is necessary. While the centralization of decision-making may streamline teachers work and is touted as an effective way of ensuring more predictable achievement outcomes (Apple, 2010; Au, 2007; Moe, 2003; Wills & Sandholtz, 2009), standardization of time does not take into account materialization of time in authentic classrooms where teachers make decisions regarding social studies time. Time decisions such as teachers' decisions to integrate social studies should be transparent to administrators and collectively scrutinized for instructional quality tradeoffs. Initiating a professional discourse between principals and teachers to examine instructional priorities associated with time allocations could lead to greater consensus for how time defines the opportunity to learn social studies in elementary school.

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[i] In adherence with the National Center for Education Statistics publication requirements, all sample sizes have been rounded to the nearest 10 in order to avoid respondent disclosure.

[ii] Surveys can be found at http://nces.ed.gov/surveys/sass/pdf/0708/sass4a.pdf and http://nces.ed.gov/surveys/sass/pdf/0708/sass4a.pdf

[iii] Absolute values of instructional time difference were calculated to avoid confounding results of the Pearson correlations.

[iv] Absolute values for principal-teacher time differences were calculated prior to Pearson correlation to avoid confounding analyses.

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