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Differences in Elementary School Team Communication and Practices for Students of Varied Educational Status

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DIFFERENCES IN ELEMENTARY SCHOOL TEAM COMMUNICATION AND
PRACTICES FOR STUDENTS OF VARIED EDUCATIONAL STATUS

by

Kathleen Kroll

A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
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DIFFERENCES IN ELEMENTARY SCHOOL TEAM COMMUNICATION AND PRACTICES FOR STUDENTS OF VARIED EDUCATIONAL STATUS

Kathleen Kroll, Ph.D.

Western Michigan University, 2014

This dissertation focuses on interdisciplinary problem-solving teams used to address the academic needs of elementary students struggling with reading. Use of teams has a strong theoretical base and wide endorsement by educational leaders, but limited empirical base. Three studies explore teams that convene students of differing academic status: typical learners (TL), literacy-learning risk (LLR), or language-learning disability (LLD).

The first, a survey study of 183 elementary school personnel in 8 professional categories, examines perceptions of teams convened for students with identified learning disabilities in the area of reading, compared with students struggling but unidentified. Results indicate principals, general education teachers, and reading specialists have higher levels of participation prior to special education identification than after. Conversely, respondents reported greater participation post than pre identification for the roles of special education administrators, special education teachers, and social workers.

The second, a prospective study, examines responses from 26 general education teachers of grades 1 through 5 regarding communication event frequency, type, and attendance for students in three status groups. Results indicate a higher rate of informal communication events than formal for all groups, and more informal events for students

in the LLR than the TL group. Special education teachers were present for significantly more events held for students in the LLD group than for students in the TL or LLR, and reading specialists and school psychologists were present for significantly more events for the LLR group than for the LLD.

The third, a study using data collected in study two, investigated differences in recommendations, particularly the *addition and modification of an intervention*. Results indicated a higher frequency of this recommendation reported for students in the LLD and LLR group than TL. Results also indicated that when this recommendation was made, variations existed in professional attendance for different student status groups.

These studies provide greater understanding of professional engagement in problem-solving teams for elementary students. With evidence in the literature to support professionals working together, results of these studies may inform school leadership of the current practices for school-based problem-solving teams and promote discussion of optimal team composition and frequency.

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Kathleen Kroll

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CHAPTER 1

INTRODUCTION

This is an introduction to a dissertation that is comprised of three investigations. All three studies address questions about school problem-solving teams who meet to discuss and address the needs of individual students who are struggling academically in the area of reading. In elementary schools, problem-solving teams tend to be engaged in problem solving related to students' academic status at three points. These are: (a) when academic needs are apparent but before special education identification (Kovaleski & Glew, 2006; Williamson & McLeskey, 2011), (b) during the process of identifying a student with a disability (Council for Exceptional Children, 2007), and (c) after special education identification (IDEA, 2004).

A school team meeting to discuss academic needs is a frequent topic in the literature (Bahr & Kovaleski, 2006; Kovaleski & Glew, 2006; Truscott, Cohen, Sams, Sanborn, & Frank, 2005). Understanding these educational teams is important, as the decisions made may change the academic programming for students. However, the influence of some variables, such as meeting frequency and attendance, that may affect team functioning are not known. The research described here was designed to fill gaps in the literature with respect to the nature of the teams, their makeup, and how they function.

Definitions

These investigations share a focus of how problem-solving teams function when addressing the needs of elementary-school aged students who are categorized based on a set of criteria for one of three types of academic status. Students in the first group are considered typical learners with no additional reading, language, or speech services beyond standard classroom instruction. These students are referred to in these studies as being typical learners (TL). Students who receive services in reading, language or speech beyond the scope of the general classroom are considered at-risk for language or literacy learning difficulties and categorized as language-literacy risk (LLR). Students who fit this category were receiving small group reading instruction by a professional other than their classroom teacher. Students needing more intensive services, and therefore qualifying for special education services, are categorized in the area of reading or language as language-literacy disabled (LLD). Special education eligibility categories that permitted inclusion in this study were those associated with primary language/literacy disorders: speech/language impairment (S-LI) and learning disability (LD) in the areas of spoken and/or written language.

For the purposes of this research, a problem-solving team (also referred to in these studies as an educational team) is defined as two or more individuals (including parents and school professionals) that meet to discuss a particular student in the context of academic progress or social behaviors. The act of “meeting” is defined broadly as a communication event that includes focus on a particular student’s needs. A meeting, as defined for Studies II and III, could include a formal communication such as a scheduled meeting, or an informal meeting, such as a conversation in a hallway.

Individual Study Overview

Study I used survey data collection to gather responses of school personnel who might serve on such teams. Participants responded to survey items to gather perceptions from the points of view of people in 8 professional roles (special education teacher, special education administrator, psychologist, principal, social worker, reading specialist, speech/language therapist, and general education teacher). These professionals were asked to think about a student who was considered at-risk for reading difficulty and another student identified as needing special education services based on a reading difficulty. Study I provided information about team meeting frequency, the professional roles of those who attended team meetings, and perceived responsibility for an individual student's reading progress over the course of a school year. It was based on retrospective reflection regarding two hypothetical, students both struggling in the area of reading, one of whom was suspected of having a reading problem but *was not* receiving special education services, and another who *was* receiving special education services.

Study II expanded on the information from Study I by gathering prospective data about problem-solving teams related to specific students meeting criteria for one of three categories of academic status: (a) TL, (b) LLR, or (c) LLD from three staff roles: (a) general education teacher, (b) special education teacher, and (c) speech-language pathologist. The purpose of this five-month prospective study was to provide empirical information about the nature of communicative contacts for students related to their current academic status. In Study II, data were gathered through biweekly online reports (i.e., collected every two weeks). Completed by general education teachers, these reports were about specific students who also were enrolled in the broader study of their

language and literacy abilities and whose parents had given permission. Respondents were asked to describe all communication events over the past two weeks about each student enrolled in the study. The online response form asked about each contact, including its topic, type, who was involved, and recommendations made. Additionally, all but two of the enrolled students were tested with the Test of Integrated Language and Literacy Skills (TILLS; Nelson, Helm-Estabrooks, Hotz, & Plante, 2011), a comprehensive test designed to assess spoken and written language abilities in order to verify student status.

Study III was conducted using the data set gathered in Study II. Its focus was on the intervention recommendations made for individual students within each communicative event (addition, subtraction, modification, or maintenance of intervention, gathering additional data, conducting another meeting, no recommendation/need for further discussion, or other). Research questions asked about associations between attendance and recommendations.

Rationale

School teams generally consist of several people representing many professional disciplines. Most teams function as interdisciplinary (rather than multidisciplinary) teams due to their attention to a problem of mutual interest and the creation of common goals for the student (American Physical Therapy Association [APTA], 2010). Although teams include multiple members, the professionals most commonly recommended for membership before a student is considered for special education identification are general education teachers, content area specialists, and administrative representatives (e.g., Bahr

& Kovalski, 2006; Truscott et al., 2005). Federal policy establishes a requirement for teams to convene at two points for students with disabilities: (a) to initially identify a student with a disability, and (b) once per year to review and revise special education services. Prior to identification, requirements under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA) (P.L.108-446) require membership of IEP teams to include, at least, the general education teacher, school psychologist, administrator, and parent, with other professionals as deemed appropriate (IDEA, 2004). Following special education identification, teams consisting of the general education teacher, parent, special education provider, and school administrator are required (IDEA, 2004) participants in IEP meetings.

Policy and law recommend team problem solving prior to special education identification and require teams meetings during and after identification; however, the composition and frequency of team meetings vary, as well as the topic, type of meeting, and recommendations made. Although many publications mention teams and describe problem-solving approaches (Buck, Polloway, Smith-Thomas, & Cook, 2003; Dettmer, Thurston, & Dyck, 2005; Kovalski & Glew, 2006; Malone & Gallagher, 2010), almost no literature relates directly to the differences in meetings (e.g., frequency, membership, and topic) before special education identification and after. Problem-solving teams are recommended to address students' academic difficulty (e.g., Burns, Peters, & Noell, 2008; Telzrow, McNamara, & Hollinger, 2000; Truscott et al., 2005), but once a student is identified with a disability, a concern may be that intervention design and problem solving is generally left to the student's special education service provider. If collaboration in interdisciplinary school-based problem solving teams is viewed as

guiding the intervention that leads to desired results (academic improvement), then teams should be working together to address academic concerns regardless of student status (pre and post special education identification).

This dissertation is designed to provide empirical evidence regarding team composition, meeting frequency, and team characteristics for three student status groups, potentially giving a more accurate picture of current team practices in elementary schools for addressing students' academic difficulties than found in opinion pieces and limited empirical studies. This research has implications for informing practice during a time when there is much discussion about how to involve teams in identifying and addressing the needs of students with learning disabilities and other students facing academic risks. By gathering reports of professionals, particularly general education teachers, this dissertation explores perceived participation, responsibility, number of meetings, and student scores in a variety of ways. In a series of three dissertation papers, questions about teams and their communication events (as defined by two or more adults communicating specifically about a particular student) about students considered typical, at-risk and with a language-literacy disorder were explored.

The literature points to teams as a common way to address the academic concerns of students (Burns, Vanderwood, & Ruby, 2005; Burns & Symington, 2002), but little or no information exists regarding team composition, communication, and effects. Therefore, the purpose of this dissertation is to provide information about the nature of teams (e.g., who comprises teams, for what purposes), how they communicate (e.g., the nature of teams' formal and informal meetings, attendance, and frequency), and

recommendations considered at such meetings in relationship to the academic status of students.

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CHAPTER 2

DIFFERENCES IN ELEMENTARY SCHOOL PROBLEM-SOLVING TEAMS FOR STUDENTS RECEIVING SPECIAL EDUCATION SERVICES AND THOSE UNIDENTIFIED

Background

Teams of professionals, including educators, administrators, and other service providers, meet frequently to address the needs of struggling learners (Kovaleski & Glew, 2006; Williamson & McLeskey, 2011). Meeting as a team has been described as the standard method of working to address a student's needs in general education (e.g., Burns, Peters, & Noell, 2008; Telzrow, McNamara, & Hollinger, 2000; Truscott, Cohen, Sams, Sanborn, & Frank, 2005) and for special education referrals (e.g., Council for Exceptional Children, 2007; VanDerHeyden, Witt, & Gilbertson, 2007), but questions arise about whether team processes differ after students have been identified as needing special education services because most of the research has concentrated on the pre-referral period. A comprehensive literature review revealed no studies of meetings before and after special education identification in the literature.

The overall success of using a team process to address the academic and social needs of individual students has a strong theoretical base (Burns, Vanderwood, & Ruby, 2005). Some empirical evidence also supports the use of teams. That is, improvements in measurable outcomes have been associated with use of a team process in terms of improved student achievement scores, teacher perceptions of greater student success, and reductions in numbers of students identified for special education services due to their

increased performance (Burns et al., 2008; McNamara & Hollinger, 2003). However, the literature does not fully describe the nature of teams—such as who serves on teams, how often they meet, or how they operate—for students who have not been identified as needing special education compared with those who have been.

Contributing to the lack of generalizable information about problem-solving teams is a lack of consistency in how teams are labeled, defined, and described across studies. This compounds the challenge of understanding fully how teams are used to address students' diverse needs (Burns et al., 2005; Council for Exceptional Children, 2007; Fuchs & Fuchs, 2006). In particular, questions arise about how teams and processes might differ for students in general education who are demonstrating academic risks versus teams and processes for students who already have been identified as needing special education services. Limited empirical data are available on the frequency of meetings, who participates, and the perception of responsibility for the needs of students with different academic status (i.e., identified and unidentified). This information could be used for illuminating team processes and understanding similarities and differences for students at different status points.

Two historical developments provided a background for the implementation of student-focused problem-solving teams in schools. An early model was the mental health services team-based approach developed in the 1950s (Caplan, 1959). A more recent model, identified in a review of earlier literature by Sindelar, Griffin, Smith and Watanabe (1992), was teacher assistance teams, which became prevalent in the 1970s. Teacher assistance teams were built on the model conceived by Caplan for mental health services teams, which involved disseminating knowledge to a greater number of

individuals through planned meetings. In educational settings, such meetings were intended to meet the needs of low functioning students in general classes (Chalfant, Pysch, & Moultrie, 1979). Such teams were designed to emphasize student growth by focusing on the student's specific deficit area, followed by continuous monitoring of academic and social performance (Burns et al., 2005).

The configuration and practices of teams that are concerned with students struggling with academic skill acquisition, particularly reading, are the focus of this research. Data gathering methods make it difficult to know precise proportions of students struggling with reading, but the International Dyslexia Association (2010) suggests between 15-20% of students have reading and language processing weakness. Using data from the 2011-2012 school year (on which this research was based) from the elementary population, as many as 48,598 to 111,081 students are considered "not proficient," or receiving the lowest possible score, in the area of reading (Michigan Department of Education, 2014). Of the students receiving special education services, 42% were considered "not proficient." Estimates from the Michigan Department of Education (2014) report 41% of the school-age population with identified disabilities qualify on this basis of learning disability. Of students with learning disabilities, perhaps as many as 80% are struggling readers (Michigan Department of Education, 2014).

Measuring the Effectiveness of Student Problem-Solving Teams

One of the uses of problem-solving teams is to address the needs of students who are struggling currently in a particular area but who might respond to specialized intervention that is not special education. In particular, response-to-intervention

approaches, commonly referred to as RtI, are intended to use evidence-based, high quality interventions that are matched to students' needs, coupled with frequent progress monitoring to make decisions about changing instruction or goals for the individual student (Hoover, Baca, Wexler-Love, & Saenz, 2008). Utilizing the team approach for this RtI purpose has been investigated for its effects on the reduction of special education referrals and improvement of student outcomes (Burns et al., 2008; Fuchs, Mock, Morgan, & Young, 2003; McNamara & Hollinger, 2003). Using a meta-analysis of nine intervention team studies, Burns and Symington (2002) found significant reductions in placement in special education programs and referrals for special education testing with the use of pre-referral intervention teams. They cautioned, however, that their results must be viewed with caution due to their small sample size and variation among the teams (nine studies representing quantitative data with intervention designs not fully described). Hartman and Fay (1996), who investigated 1,074 schools, also found fewer special education placements with the implementation of a team process than without a team approach in place, although these latter studies were conducted prior to the reauthorization of the Individuals with Disabilities Education Act of 2004, when RtI was formally encoded into education policy (IDEA, 2004).

Contrasting with research on team effectiveness—measured as reductions in student referrals and numbers of students needing special education—are studies that measure student performance directly. As Vaughn and Fuchs (2003) noted, measurable gains in academic and social skills are arguably the key indicator of success of the team approach. Analyzing student scores on performance measures in relation to the documentation of interventions and consequential results, McNamara and Hollinger

(2003) found that teams using any type of intervention process that required fidelity related to student goals and data collections were associated with better student outcomes than those that did not require fidelity and data collection. Team processes involving documentation plans, recommendations of scientifically sound interventions, and provision of a continuum of supports have been associated with better student progress on measures of time on task, task completion, and task comprehension (Kovaleski, Gickling, Morrow, & Swank, 1999). Nevertheless, as stated by Fuchs et al. (2003), even these outcome measures are indirect, as they do not measure academic performance directly.

In their meta-analysis designed to capture studies of intervention teams with at least one direct outcome measure and sufficient quantitative data to calculate an effect size, Burns and Symington (2002) found positive effects for student reading scores (a direct measure of student improvement) associated with problem solving intervention teams. In another analysis of teams, Welch, Brownell, and Sheridan (1999) reviewed 18 articles reporting outcomes of teams that met to address academic concerns. All 18 focused on the influence of teams of professionals who shared responsibility for developing a plan to meet an academic or behavioral goal for students. Six reported positive outcomes on student measures, 0 reported negative results, 8 did not report a direction of results, and 4 reported mixed results. Some aspects of these studies support a conclusion that positive outcomes are possible through the use of a team approach. Teams, however, have not been fully described as they function in the school setting. These descriptions are particularly important in order to compare teams for students

identified for special education and those for students who are struggling but who have not been identified for special education.

Differences in Student Problem-Solving Team Practices

Wide variations in team practices complicate investigation of team processes. One incompletely understood variable is meeting frequency. No legal mandates dictate the frequency or membership of meetings prior to special education identification (Buck, Polloway, Smith-Thomas, & Cook, 2003; Wright, 2010); neither do consistent guidelines exist regarding the operation and function of educational teams for students who are not meeting academic expectations, such as learning to read. A comprehensive review of the literature did not reveal investigations regarding the regularity with which teams meet before special education identification, particularly in comparison with team meetings held after students have been identified and are receiving special education. In fact, few studies were found that discussed team meetings for students receiving special education services.

Teams are required by law (IDEA, 2004) to meet at least once per calendar year after special education identification to discuss academic needs, yet studies of the regularity of meetings to discuss student progress held beyond the mandated minimum could not be found. Additionally, no information could be found in the literature regarding how meeting frequency differs (or remains the same) for students who are struggling but not yet identified compared with those who are post special education identification. A decrease in frequency of team meetings following special education identification might be contraindicated given that increased communication has been

positively associated with outcomes for students considered at-risk (Camelo-Ordaz, Hernández-Lara, & Valle-Cabrera, 2005; Tsai, Chuang, & Hsieh, 2009), but the absence of empirical data makes it difficult to know what typically happens. More frequent meetings, whether formal or informal, might increase communication among team members.

Investigating the relatively unexplored variable of meeting frequency for students struggling but unidentified, compared with those identified as needing special education services also has implications for future research. With evidence of associations between meeting frequency and positive student outcomes, it is important to investigate potential differences in meetings related to student status (identified and unidentified). This information could guide stakeholders to encourage more meetings post special education identification than the single mandated Individualized Education Planning (IEP) meeting.

Although little is known about meeting frequency for unidentified and identified students, more is understood about the professionals who attend meetings for students at risk and in special education. No mandates exist regarding team member participation before special education identification (Wright, 2010), but most studies of school teams convening to discuss the needs of unidentified students who are struggling report membership that includes the student's teacher, a consultant, and specialists such as the speech-language pathologist as needed (Bahr & Kovalski, 2006; Fuchs et al., 2003; Kovalski & Glew, 2006; Lee-Tarver, 2006; VanDerHeyden et al., 2007). A nationwide survey (including all states and the District of Columbia) indicated that 86% of states require or recommend intervention teams, but only 14% mandate team composition (Truscott et al., 2005). Results from another nationwide survey sent to directors of special

education regarding their school prereferral intervention practices found the following regarding perceived membership of teams: 59% included general education teachers, 47% special education teachers, 16% school psychologists, and 49% included other professionals, such as social workers and school administrators (Buck et al., 2003). Truscott, Cohen, Sams, Sanborn, and Frank (2005) sent a nationwide survey to 51 education departments (50 states and the District of Columbia), which asked the about the membership of intervention teams. The perceived average team had nine members, and commonly reported roles were referring teachers, general education administrators, school counselors, classroom teachers, special educators, and school psychologists. Burns, Vanderwood, and Ruby (2005) reviewed several collaborative team models and also found differences in membership, with some including principals, others including specialists, and some including only teachers. These studies offer some insight to team composition before special education identification; however, studies more recent than 2005, which are more likely to reflect the changes initiated by IDEA 2004 to allow RtI processes, could not be found.

Although no information about team composition post identification was found in the literature, federal law dictates that IEP teams, at a minimum, include the parent/legal guardian, regular education teacher, special education provider (e.g., special education teacher, speech-language pathologist), representative of the public agency (typically the school administrator), and an individual who can interpret test results (e.g., school psychologist, special education teacher, or speech-language pathologist) (IDEA, 2004). Meetings that involve students with multiple identified need areas, such as hearing impairment or social skill deficits, may have additional professionals present from other

roles such as a hearing consultant or social worker. These attendance requirements are for formal IEP meetings only. The lack of information regarding team meeting frequency and roles of those participating, particularly following special education identification, makes it difficult to understand teams operate in actual practice (Barnett, Daly, Jones, & Lentz, 2004), and especially, how teams might differ before and after special education identification.

Research Questions

This research was designed to address gaps in the literature in the area of meeting frequency, professional participation, and professional responsibility. The study addressed three research questions:

1. Are there perceived differences in the number of meetings about a student with a reading difficulty who has not been identified as needing special education services and another student who has been identified and is receiving services?
2. Are there perceived differences in how often professionals are reported to participate at the meetings held both for an unidentified student and for one who had been identified for special education services?
3. Are there differences in perceived levels of responsibility reported by each school professional for a student's reading progress for an unidentified student and for one who had been identified for special education services?

Methods

Participants

After gaining Human Subjects Institutional Review Board (HSIRB) approval (Appendix C), participants were recruited through emails sent to professionals in a randomly selected sample of 100 (out of 619) Michigan public school districts. A decision was made to confine the sampling to the state of Michigan to allow for a probabilistic sampling of districts of one state and to control for the potentially confounding variables present in varying laws and policies across states. This made it possible to focus on questions comparing students of different identification status as the independent variable of key interest.

After random selection of the 100 districts, one elementary school, defined as serving children in grades K-5, was selected randomly within each district by using a random number generator. Again using a random number generator, one individual from each of the following eight categories of school professionals was contacted through email addresses found on the district's publicly available website: special education teacher, special education administrator, psychologist, principal, social worker, reading specialist, speech-language pathologist, and general education teacher. School districts that did not provide information about a professional's particular role on the public web site were excluded from the sample.

Invitations with a link to the online survey were sent directly to the 555 potential participants selected in this manner using their publicly available email addresses. A week later, a follow up reminder was emailed to all potential participants. One hundred

eighty-three school professionals (33%) responded. Participants with three or more missing responses out of the 11 general survey questions were excluded from the analyses ($n = 44$). This resulted in responses from 139 participants being included in the study.

Instrument

An online experimenter-designed survey (Appendix B) was used to gather information regarding perceptions of school personnel expected to have experience with interdisciplinary teams. Respondents were asked to answer questions related to two hypothetical students. One hypothetical student was described as “struggling in general education in the area of reading” but who had not “been identified for special education services,” and the other hypothetical student was described as “struggling in the area of reading” and “receiving special education services.” For the purposes of discussion, students are referred to as “pre” and “post” identification, but this is not intended to imply students who struggle with reading would necessarily receive special education services in the future.

Teams were defined for survey respondents as two or more professionals in the field of education working in roles designed to address a student’s academic or social needs (Welch et al., 1999). Participants were asked to identify themselves as representing one of eight specified roles (principal, general education teacher, reading specialist, psychologist, special education administrator, special education teacher, speech-language pathologist, social worker) or other. This study focused on school professionals; therefore, parents were not included in the survey. This was not to imply that parents are

not critical members of student problem-solving teams, but the study design (links send to publicly available email addresses) did not permit a reasonable way to identify parents who might respond in each student category. Participants also were asked to indicate the number of years they had been in education, the number of years they had been employed in the current district, and the size of their school district (Class A, B, C, D, or not sure). School size was specified as defined by the Michigan High School Athletic Association (2012) as follows: Class A = 987 or more enrolled in high school; Class B = 488-986; Class C = 224-487; and Class D = 223 or fewer.

The survey was designed to collect information related to the three dependent variables of professionals' perceptions of: (1) meeting frequency, (2) professional participation at meetings, and (3) professional responsibility for reading progress. First, respondents were asked to report their perceptions of the number of meetings typically held within one school year about a hypothetical student considered to be having difficulty reading but not identified for special education. Second, they were asked to report their perceptions regarding how frequently professionals in each of the eight role categories were likely to participate in meetings for this hypothetical student. A 5-point Likert-like scale was used, with choices of *never*, *rarely*, *sometimes*, *often*, or *always* for each of the eight roles. Third, respondents were asked to identify perceived responsibility for a student's reading progress by selecting choices of *none*, *secondary*, or *primary* responsibility for the same eight roles. These three options could be selected multiple times. In a second portion of the survey, participants were asked to respond to an identical set of three-part questions (regarding number of meetings, participation, and

responsibility for reading progress) about a student who struggled with reading and who had been identified and was receiving special education services.

The survey was pilot tested and revised in three phases. First, a special education teacher, a speech-language pathologist, and three general education teachers reviewed pilot versions of the survey and provided input. The revised survey then was discussed by a focus group, consisting of a special education teacher, a speech-language pathologist, two social workers, and two general education teachers. Following the changes recommended by this group, the survey was piloted with general education and special education teachers, and additional feedback was used to generate the final version.

Analysis Methods

The three dependent variables of meeting frequency, professionals participating, and responsibility for reading progress were analyzed as repeated measures to compare within-reporter responses based on the independent variable of whether the hypothetical student was defined as pre or post special education identification. The variable of meeting frequency was continuous, and the variables of professional participation and responsibility were categorical, based on responses to Likert-like scales (1 to 5 and 1 to 3, respectively). These categorical variables were assigned numerical values for the purposes of analysis, weighting them from high to low according to frequency of participation or level of responsibility (i.e., *always* = 5, *often* = 4, *sometimes* = 3, *rarely* = 2, *never* = 1 on the professional participation variable; *primary* = 3, *secondary* = 2, *none* = 1 on the professional responsibility variable).

Because the data did not meet parametric assumptions, the Wilcoxon signed rank test was used to evaluate the statistical significance of differences between information reported for these two hypothetical students based on special education identification status for the three key variables—meeting frequency, professional participation, and professional responsibility. For the variables of participation and responsibility, respondents' responses related to their own role were removed from the analysis to reduce self-reporting bias. An alpha level of .05 was set (with Bonferroni correction as needed), and IBM SPSS Statistics, Version 20.0 (SPSS, Inc.) was used to conduct the analyses.

Results

The sample of 139 usable surveys (25% response rate) included general education teachers ($n = 13$), special education teachers ($n = 13$), school psychologists ($n = 21$), school social workers ($n = 21$), speech-language pathologists ($n = 12$), principals ($n = 20$), reading specialists ($n = 16$), special education administrators ($n = 20$), and others ($n = 3$). Respondents varied in reported school district size: Class A ($n = 46$), Class B ($n = 42$), Class C ($n = 29$), Class D ($n = 10$), and not sure ($n = 12$). Respondents also varied in the number of years they reported working in education (range = 1 to 39 years; $M = 18$) and in the particular school district (range = 0 to 39 years; $M = 13$). The following sections report the results of analyses conducted to address each of the three research questions related respectively to meeting frequency, professional participation in meetings, and professional responsibility for student reading progress. In each case,

responses are compared for the hypothetical student who had not been identified for special education with responses for the other hypothetical student who had.

Perceptions of Meeting Frequency

Table 2.1 summarizes results for the number of meetings pre and post special education identification by role as well as by demographic factors. When analyzed collectively using the Wilcoxon signed rank test, participants reported statistically significantly more meetings per school year for the hypothetical pre-identification student ($Mdn = 4$ per year) than for the post-identification student ($Mdn = 2$ per year), $T = -7.01$, $p < .01$.

Next, these analyses were repeated with the data file separated first by the reporter's role, then by district size, then by the reporter's years in education, and, finally, by the reporter's years in district. The results of these analyses, which are summarized in Table 2.1, can be understood best by considering them first, before the Bonferroni correction for multiple tests was used (a less conservative approach that might increase the probability of a Type I error), and again, after applying the Bonferroni correction to the alpha level (a more conservative approach, but one that might increase the probability of a Type II error). The Bonferroni correction established alpha level p values of $<.006$ for role, $<.01$ for district size, and $<.008$ for years in education and years in district.

When the results are considered, first, by role of the reporter, all but two of the roles reported significantly higher meeting frequency before identification than post identification at the $p < .05$ level. The two reporter roles that did not report significantly different frequencies pre than post were speech-language pathologist ($T = -1.17$, $p = .24$)

Table 2.1

Number of Meetings Reported by Respondent by Category Pre and Post Special Education Identification

	<i>n</i>	Median number of meetings		
		Special ed. status		<i>T</i> ^a
		Pre	Post	
Total respondents	139	4.0	2.0	-7.01*
By role				
principal	20	5.0	4.0	-2.33
general education teacher	13	4.0	3.0	-2.70
reading specialist	16	4.5	2.0	-2.71
psychologist	21	3.0	1.0	-3.81*
special education administrator	20	4.5	3.0	-2.72
special education teacher	13	4.0	2.0	-2.37
speech-language pathologist	12	3.0	2.0	-1.17
social worker	21	3.0	2.0	-1.88
By district size				
class A	46	4.0	3.0	-3.72*
class B	42	4.0	2.5	-4.31*
class C	29	5.0	2.0	-3.78*
class D	10	4.0	2.0	-.56
not sure	12	3.0	1.0	-2.22
By years in education				
0-5	14	4.0	2.0	-1.82
6-10	21	3.0	2.0	-2.48
11-15	30	4.0	2.0	-3.51*
16-20	22	4.0	2.0	-2.72*
21-25	15	5.0	3.0	-2.53
26+	37	4.0	2.0	-3.78*

Table 2.1—Continued

	<i>n</i>	Median number of meetings		<i>T</i> ^a
		Special ed. status		
		Pre	Post	
By years in district				
0–5	35	4.0	3.0	–2.92*
6–10	33	4.0	2.0	–2.87*
11–15	25	3.0	2.0	–3.30*
16–20	18	4.5	3.0	–2.94*
21–25	16	5.0	3.0	–2.82*
26+	12	3.0	2.0	–2.85*

Note. Excluded: 3 roles reported as other.

* indicates statistical significance (with Bonferroni correction applied) of $p < .006$ for role; $p < .01$ for district size; $p < .008$ for years in education; $p < .008$ for years in district. Meeting frequency was estimated within the span of a school year.

^a Wilcoxon signed rank (*T*) was used to determine if differences pre and post special education identification were statistically significant.

and school social worker ($T = -1.88, p = .06$). However, after the Bonferroni correction was applied, the only respondents who reported more meetings pre than post at a level that met the adjusted p value of $< .0001$ were school psychologists. For the group of 21 school psychologists, the median number of meetings pre-identification was three compared to the median of one post-identification ($T = -3.81, p < .0001$).

When separate analyses were run by district size, the results for respondents in Class A, B, and C schools all were statistically significantly different in the same direction, even with the Bonferroni correction, with fewer meetings post special education identification than pre identification (all at $p < .0001$). The exceptions were for the Class D schools (with 10 respondents) and those who were unsure of their district size

(13 respondents) neither of which resulted in significant differences, even with alpha level set at $p < .05$.

Other analyses were run to investigate respondents' perceptions based on years in education and years in their particular school district. Those respondents identifying themselves as being in education for 11-15 years, 16-20 years, or more than 26 years all reported fewer meetings for students post-identification than students pre-identification ($p < .008$). Without the Bonferroni correction, all but those in education 0-5 years were statistically significant ($p < .05$). When analyzing based on how many years the respondents had been working in their particular districts, all reported fewer meetings post identification ($p < .008$).

Perceptions of Professional Participation on Teams

Table 2.2 summarizes the results of statistical analyses for perception of participation of professionals in roles other than one's own at meetings pre and post special education identification. Nonparametric tests were conducted to detect differences in perceived professional participation in meetings held for the two hypothetical students at different status points. Participation was coded from 1 (*never*) to 5 (*always*), and the numerical rating was used as the dependent variable in the Wilcoxon signed rank tests. Participants' responses about their own role were excluded from the analysis, resulting in varying numbers of respondents. Collectively, the respondents ranked principals, general education teachers, and reading specialists as having higher levels of participation prior to special education identification than after (principals, $T = -2.48$, $p = .013$; general education teachers, $T = -2.80$, $p = .005$, and reading specialists, $T = -5.97$, $p < .0001$).

Principals were ranked as always participating in meetings significantly more frequently for a student before special education identification (*always* = 39%) than after (*always* = 29%). Similar differences were reported for general education teachers before identification (*always* = 89%) than after (*always* = 79%), and for reading specialists before (*always* = 45%) than after (*always* = 15%).

Conversely, respondents reported greater participation post than pre identification for the roles of special education administrators, $T = 4.31$, $p < .0001$, and special education teachers, $T = 7.54$, $p < .0001$. For special education administrators, participation levels were perceived to be ranked lower before special education identification (*always* = 7%) than they were after (*always* = 12%). This difference also was evident for special education teachers, where 33% were reported as always attending before special education identification compared to 91% for always attending after identification. As Table 2.2 shows, when comparing participation for the general education and special education teachers, the general education teacher is reported highest in the *always* category before identification (*always* = 89%, *often* = 10%, *sometimes* = 1%, *rarely* = 0, *never* = 0; $p = .005$), whereas the special education teachers' reported participation before identification was more evenly distributed across the possible responses (*always* = 33%, *often* = 22%, *sometimes* = 28%, *rarely* = 11%, *never* = 6%).

Table 2.2

Respondents' Perception Regarding Professionals Participating in Planned Meetings for Students Pre and Post Special Education Identification

Role	n	Levels of participation n (%)					T ^a
		Never	Rarely	Sometimes	Often	Always	
Principal	119						-2.48*
pre		4 ^b (3) ^c	12 (10)	18 (15)	38 (32)	47 (39)	
post		6 (5)	11 (9)	25 (21)	43 (36)	34 (29)	
General education teacher	126						-2.80*
pre		0 (0)	0 (0)	1 (1)	13 (10)	112 (89)	
post		2(2)	0 (0)	2 (2)	23 (18)	99 (79)	
Reading specialist	123						-5.97*
pre		12 (10)	3 (2)	26 (21)	27 (22)	55 (45)	
post		22 (18)	21 (17)	31 (25)	28 (23)	19 (15)	
Psychologist	118						-1.21
pre		7 (6)	16 (14)	31 (26)	25 (21)	39 (33)	
post		8 (7)	11 (9)	41 (35)	32 (27)	24 (20)	
Special education administrator	119						4.31*
pre		48 (40)	39 (33)	16 (13)	8 (7)	8 (7)	
post		39 (33)	28 (24)	22 (18)	13 (11)	17 (12)	
Special education teacher	126						7.54*
pre		7 (6)	14 (11)	35 (28)	28 (22)	42 (33)	
post		0 (0)	0 (0)	6 (5)	5 (4)	115 (91)	
Speech-language pathologist	127						1.39
pre		7 (6)	24 (19)	54 (43)	28 (22)	14 (11)	
post		3 (2)	14 (11)	70 (55)	29 (23)	11 (9)	
Social worker	118						5.65
pre		8 (7)	36 (31)	38 (32)	25 (21)	11 (9)	
post		17 (14)	27 (23)	56 (47)	15 (13)	2 (2)	

Note. Percentages may not add to 100 due to rounding. Results are collapsed across respondent groups with self-role ratings removed.

* indicates statistical significance of $p < .05$.

^a Wilcoxon signed rank (T) was used to determine if differences pre and post special education identification were statistically significant. ^b Frequency. ^c Percentage.

Perceptions of Perceived Responsibility for the Progress of Students with Reading Difficulty

Table 2.3 summarizes the results of statistical analyses for perception of professionals responsible for a hypothetical student's reading progress pre and post special education identification (with own-role ratings removed). Responsibility was coded 3 (*primary*) to 1 (*none*) to create numerical scores that were used in the Wilcoxon signed rank test to investigate differences in responsibility ratings. All respondents reported general education teachers with higher levels of responsibility prior to special education identification (*primary* = 98%; *secondary* = 2%; *none* = 0) compared with post (*primary* = 63%; *secondary* = 37%; *none* = 1%), $T = -6.64, p < .0001$. The same was true for reading specialists prior (*primary* = 63%, *secondary* = 33%; *none* = 5%) compared to post (*primary* = 25%, *secondary* = 49%; *none* = 26%), $T = -6.74, p < .0001$. Conversely, for special education administrators, responsibility levels were lower pre identification (*primary* = 2%, *secondary* = 28%; *none* = 71%) than post (*primary* = 9%, *secondary* = 33%; *none* = 58%), $T = 4.54, p < .001$. This was also true for special education teachers pre (*primary* = 13%, *secondary* = 60%; *none* = 26%) compared to post (*primary* = 94%, *secondary* = 6%; *none* = 0), $T = 9.15, p < .0001$, and for speech-language pathologists pre (*primary* = 6%, *secondary* = 61%; *none* = 33%) compared to post (*primary* = 8%, *secondary* = 72%; *none* = 20%), $T = 3.00, p = .003$.

Table 2.3

Respondents' Perception of Levels of Professional Responsibility in Planned Meetings Pre and Post Special Education Identification

Role	<i>n</i>	Levels of responsibility <i>n</i> (%)			<i>T</i> ^a
		Primary	Secondary	None	
Principal	119				-1.79
pre		12 (10)	73 (61)	34 (29)	
post		11 (9)	67 (56)	41 (34)	
General education teacher	126				-6.64*
pre		124 (98)	2 (2)	0 (0)	
post		79 (63)	46 (37)	1 (1)	
Reading specialist	123				-6.74*
pre		77 (63)	40 (33)	6 (5)	
post		31 (25)	60 (49)	32 (26)	
Psychologist	118				-0.41
pre		2 (2)	70 (59)	46 (39)	
post		5 (4)	62 (53)	51 (43)	
Special education administrator	119				4.54*
pre		2 (2)	33 (28)	84 (71)	
post		11 (9)	39 (33)	69 (58)	
Special education teacher	126				9.15*
pre		17 (13)	76 (60)	33 (26)	
post		118 (94)	8 (6)	0 (0)	
Speech-language pathologist	127				3.00*
pre		8 (6)	77 (61)	42 (33)	
post		10 (8)	91 (72)	26 (20)	
Social worker	118				1.41
pre		0 (0)	50 (42)	68 (58)	
post		1 (1)	54 (46)	63 (53)	

Note. Percentages may not add to 100 due to rounding. Self-role ratings were removed from the analysis.

* indicates statistical significance of $p = <.05$

^a Wilcoxon signed rank (*T*) was used to determine if differences pre and post special education identification were statistically significant.

Discussion

This study investigated potential differences in team practices for students. Several differences of educational professionals' responses were identified based on a survey asking about meetings held for two hypothetical elementary students who differed in identification status (pre or post special education identification). Student status was the independent variable. It had three levels—TL, LLR, and LLD. The dependent variables investigated were the number of meetings held, who participated at meetings, and who was responsible for the student's reading progress.

Collectively (i.e., with all professional roles collapsed), respondents reported more meetings before special education identification than after. As noted by Truscott et al. (2005), Michigan (the state in which this survey was conducted) is one of 86% of states in which teams are either required or recommended to convene a meeting to discuss the needs of a child who is struggling but who has not been identified as needing special education. Michigan law, however, does not require the specification of team membership. Given that the frequency of meetings is not required or recommended (Buck et al., 2003; Wright, 2010), the number of meetings reported per year for a child struggling with reading was surprisingly consistent ($Mdn = 4$, with a range of 3–5). After special education identification, the federal special education access law (IDEA, 2004) requires a minimum of one meeting per year, but it does not specify any meetings to be held beyond that the minimum. In the current study, the median number of meetings reported was higher ($Mdn = 2$, with a range of 1–4) than the mandated minimum rate of one per year but still lower than meeting frequency reported for a student who had not yet been identified.

Results of this study showed that, although more meetings were held than the minimum required, meetings were reported to be held with less frequency post special education identification than for an unidentified student who was struggling, and this was relatively consistent by role of the respondent. Only speech-language pathologists and school social workers did not perceive differences in the numbers of meetings pre and post identification. When the Bonferroni correction was applied, only the psychologists reported differences that remained statistically significant. This could be due to the involvement and insight from the psychologists at their typical point of involvement (testing for special education services or design of RTI interventions). Lower meeting rates for students receiving special education services may be in part explained by a potential hesitancy on the part of professionals to conduct a meeting for a student without the formality of an IEP because of due process concerns.

The results of the analysis of data for respondents reporting on the participation of all roles (except their own) in meetings pre and post identification showed a clear variation pre and post identification for some professional roles. Notably, the median participation of the role of the general education teacher and reading specialist was reported higher for a student not identified as having a disability requiring special education than a student identified. The perception of reduced participation by general education teachers in meetings after identification may be of concern, as general education teachers continue to be the primary teacher of students with language and literacy problems, regardless of identification status. It should be noted, however, that change in participation between pre and post, reviewed descriptively, was slight (89% pre, 79% post). Students receiving special education for reading difficulty typically

remain under the general education teacher's educational direction for the majority of their school day. The finding of less perceived responsibility by general education teachers for students in special education could be a cause for concern.

It is possible that students in special education are perceived as needing less involvement of their general education teachers because they are receiving instruction from a specific specialized service provider (e.g., speech-language pathologist or special education teacher), who also is addressing reading concerns. Not surprisingly, then, the special education teachers were perceived with different levels of participation for identified students and those not identified (from *often* at the meeting as the most frequent response before identification to *always* as the most frequent response after). Although beyond the scope of this research, an important question is whether team composition could be prescribed as part of the evidence supporting optimal practices.

Special education teachers and administrators were reported by those in other roles as consistently participating in meetings for a student receiving special education services, but this would be expected, because it is what special education law requires (IDEA, 2004). Prior to IDEA 2004, which for the first time authorized special education personnel (administrators, teachers, and speech-language pathologists) to consult regarding students in general education, such personnel would not necessarily have known of a student with a reading problem prior to special education referral and identification, even though their specialized training in addressing learning difficulties might make their involvement beneficial. Barriers to their involvement included policies requiring parental permission and formal paperwork before a child could be discussed as one in possible need of special education. However, with the reauthorization of IDEA

(2004), some of these barriers were removed. Specifically, with the ability of school districts to allot up to 15% of their federal funding to general education programming (IDEA, 2004), federal support is now available for using the skills of these professionals prior to identification.

Similar to the results from the nationwide survey (Truscott et al., 2005), the majority of respondents in this study reported that principals always or often attend meetings for students who are not identified as receiving special education services. When a student does qualify for services, however, the principal is reported in these categories only 65% of the time. This lower percentage of involvement may be related to the nature of the survey itself. That is, respondents were asked to consider a meeting, not necessarily the IEP meeting, where the principal's attendance would be legally required. Still, consideration should be given to the important support principals provide to problem-solving teams, along with questions whether their increased involvement would be beneficial in meetings held for students receiving special education.

Differences noted in professional responsibility for students' reading progress before and after identification suggested a divide in professional involvement as well. The majority (98%) of respondents reported the general education teacher to have primary responsibility for the child's reading progress before special education identification. The reading specialist also ranked high (63% *primary*) in responsibility. After special education identification, the perceived responsibility for a student's reading progress was different, with 63% of respondents reporting the general education teacher to have primary responsibility and 94% reporting the special education teacher to have primary responsibility. Particularly interesting is the difference in general education

teacher responsibility when comparing perceptions of responsibility for students pre and post identification. One might expect general education teachers to continue primary responsibility for students receiving special education services as, in cases when reading is the sole concern, students continue to spend a large portion of their school day under the general education teacher's instructional supervision. It could be problematic if the student continues to be primarily served under the general education teacher's supervision but the teacher is perceived as having less responsibility for the student's learning.

One of the challenges in fully understanding how student problem-solving teams function for students with reading challenges is the nature of the role each professional has in teaching reading. Organizations focused on meeting the needs of students with disabilities, such as the Council for Exceptional Children (CEC, 2013), The International Dyslexia Association (IDA, 2010), American Speech-Language Hearing Association (ASHA, 2002), and the International Reading Association (IRA, 2000) offer descriptions of expected competencies for professionals under their respective fields related to intervention for reading difficulties, but these competencies vary in prescriptiveness and specificity in the area of reading. State and local differences in licensure and college preparation curricula may lead to variation in skills among professionals not only by type, but also by region, so it is impossible to draw conclusions about which professionals are best prepared to work with students pre- and post-identification. The perception of the reduced participation and responsibility of reading specialists and the increased participation and responsibility of special education teachers in meetings after special education identification in this sample may warrant further investigation. This discussion

should be set in the context of evidence regarding whether a different set of skills is needed for teaching students who are struggling with reading but remaining in general education and those whose difficulties are such that they qualify for special education services.

The three key variables of perceived meeting frequency, meeting attendance, and responsibility for student reading progress offer a starting point for further discussion. Does the meeting frequency and attendance as it is described provide optimal intervention design and implementation for struggling students? Does the level of perceived responsibility as described provide the optimal professional involvement for students who are struggling but not identified and those who do receive special education services? Further study in the intervention approaches of specialists with expertise in teaching reading to children who are struggling (e.g., reading specialists, special education teachers, and speech-language pathologists) and how they differ from best practice in general education may lead to better understanding about optimal composition of teams working toward the mutual goal of improving a student's reading abilities.

Strengths and Limitations

To my knowledge, this is the first study to investigate the differences between team meetings reported for two hypothetical students, one pre and another post special education identification, as perceived by the same survey respondents. Specifically, survey respondents were asked first to report about meetings for a student who is struggling with reading but who has not yet been identified as needing special education services; then they were asked to respond to the same questions, but for a student who

had been identified as needing special education. Asking the questions in this way made it possible to identify differences in how the team process is perceived at these two different points in time but for students of different identification status. As a reminder, although the terms “pre” and “post” have been used throughout this report, the survey does not allow any conclusions about a shift in meeting frequency, participation, or teacher responsibility for a particular child before or after identification. Additionally, the survey did not address parent involvement in team meetings. These are limitations in the study that could be resolved only by using a longitudinal design, prospective data collection methods, and engaging parent participation.

Strengths of this study include identifying gaps that should be investigated in future research. As with all survey research, however, a limitation is that participants approach surveys with their personal biases, and answers may have been skewed by social desirability or by the nature of the questions themselves (Trochim & Donnelly, 2008). This, along with a relatively small sample size from a single state makes it important to be cautious in generalizing to a larger population within the United States and beyond. Although the purposeful random sampling was a strength of the design, with 555 school professionals approached, drawn from a random stratified sample in Michigan, this is likely too small to allow generalization of results. In addition, the generalizability of the results likely is affected by the bias in the group of school professionals who did and did not agree to participate (183 responded, and 139 had responses complete enough to be used). Respondents were clustered within school districts to attempt to extend the inter-professional nature of the sample systematically, but these clusters were undefined and could not be analyzed as units, due to the

anonymity of the responses; therefore, there may be dependency in the data that could not be controlled. Due to the focus of school professionals, parents of students were not included in the study, excluding a common team member, whose perspectives on the team process also are important. Additionally, the survey was experimenter-designed and not externally validated other than as described in the methods section.

Conclusions

Perhaps the most striking and important result is that fewer team problem-solving meetings were reported within a school year for a student qualifying for special education services than one who does not qualify for services. Participants in meetings and responsibility for reading progress also differed. These results should lead to questions, given existing research, policy and recommendations that suggest that frequent meetings of collaborative teams are the preferred way to create positive student outcomes (Burns et al., 2008; Burns et al., 2005; Fuchs et al., 2003; McNamara & Hollinger, 2003). A legal minimum of one meeting per year is required after special education identification, but perhaps more meetings should be held to keep general education teachers involved and informed in helping students they share with special education personnel to progress in learning to read.

This study was designed to gather perceptions of meetings pre and post special education identification across one state from the perspectives of professionals who might participate in such meetings. Future studies might include gathering the perspectives from those within identified teams (e.g., an existing team working in a particular school district). A nationally representative sample could further understanding

of how teams vary across the country related to each state's recommendations and laws regarding the team process. Additional research also should include investigations of whether differences in meeting frequency, meeting participation, and responsibility for reading progress are associated with differences in student outcomes, both before and after special education identification.

Difficult questions remain regarding best practices for students who need specialized reading support, and the professionals best suited to meet these needs. This study also raises questions about multiple professionals' involvement in helping students with reading difficulty. Training of how to work in an inter-professional environment, as well as awareness of each other's professional competencies may be warranted. Questions still remain regarding how the combinations of roles, responsibilities, and team meeting processes that are best suited to meeting individual students' needs whether or not they are receiving special education.

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CHAPTER 3

A PROSPECTIVE INVESTIGATION OF ELEMENTARY SCHOOL TEAM COMMUNICATION EVENTS HELD FOR STUDENTS OF DIFFERENT EDUCATIONAL STATUS

Background

Reading is a central focus of early elementary school education. Therefore, students struggling in the area of reading in the elementary years typically come to the attention of school-based problem-solving teams relatively early in elementary grades (Beach & O’Conner, 2013; Speece et al., 2011). Although a majority of students develop reading skills on schedule (U.S. Department of Education, 2009), the International Dyslexia Association (2010) suggests between 15-20% of students have language and processing weaknesses that make learning to read difficult. To address and identify this important minority of students, schools may use a variety of curriculum-based measures and researched-based practices (e.g., reading fluency measures, running records, phonological awareness assessments) to monitor reading progress and detect reading difficulties in elementary students early in their reading development (Fuchs, Fuchs, & Compton, 2004; Reschly, 2014). Most of these students are detected in the early grades (kindergarten or first grade), but some may be found to be late-emerging poor readers (Catts, Compton, Tomblin, & Bridges, 2012). Students who fail reading screening assessments at any grade level come to the attention of problem-solving teams (Fuchs et al., 2004). A small percentage of these students qualify for special education services under the categories of specific learning disability or language impairment.

When students struggle, interdisciplinary teams confer to understand the depth and breadth of the problem. Teams are used as one way to promote problem solving to address academic difficulties for students at-risk of reading problems (Kovaleski & Glew, 2006). In this type of communication event, teams often engage in collaborative consultation. Collaborative consultation was defined by Idol, Paolucci-Witcomb, and Nevin (1986) as an “interactive process that enables teams of people with diverse expertise to generate creative solutions to mutually defined problems. The outcome is enhanced, altered, and produces solutions that are different from those that the individual team members would produce independently” (p. 1). In this way, interdisciplinary teams consider mutual goals and approaches that might be used with students who are struggling.

The traditional concept of a team meeting to address the needs of struggling students may evoke an image of a group of professionals sitting at a table in a formal, scheduled meeting. However, there may be a number of other ways teams are formed and interact. Interdisciplinary professionals and parents may convene and may meet formally or informally. This implies nothing about the benefits or desirability of each type of meeting. Informal meetings may, in fact, be preferred. In a national teacher survey of 1,201 Kindergarten through 12th grade teachers, one of the top five stressors teachers expressed is a feeling of over-commitment with duties and responsibilities (Richards, 2012). One possibility is that flexible communication and informal meetings may help alleviate this sense of stress.

It is a central purpose of this research to learn about the ways in which communication events occur in a school district in the Midwest for students with

language-learning risks (LLR), in comparison with students with identified language-learning disabilities (LLD), and with typical learning (TL) development. Of particular interest, was whether communication events differed for these three groups in terms of rate of communication events, type of event (formal and informal), and attendance at occurring events (types of professionals attending).

Student Status Groups

Students with typical learning skill development (TL). Students who develop reading skills on time and are functioning well in general education are not considered at risk for reading failure. Nevertheless, their progress may be the topic of communication events (formal or informal) among professionals and/or parents. Parent-teacher conferences are standard in most schools. Forty jurisdictions (including the District of Columbia) have family engagement policies that specify methods for increasing parental involvement (Belway, Durán, & Spielberg, 2013). At a minimum, one parent-teacher conference is required for schools to meet state accreditation standards in the state in which this research was conducted (Michigan Legislative Website, 2009). Informal communication about typical learners may include emails, newsletters, and phone calls between parents and teachers. Students considered TL were included within the current study as a control for the two groups of students with reading problems who were the central focus of this research on interdisciplinary communication events.

Students with literacy-learning risks (LLR). Teams have been meeting at least since the early 1970s to discuss the needs of students considered at-risk of academic or behavioral difficulty, to develop plans for interventions, and to monitor students'

progress (as described by Sindelar, Griffin, Smith, & Watanabe, 1992). Such teams have involved school professionals working together to decide which academic programs and strategies might be most successful in addressing individual academic concerns. In 2004, further impetus came for interdisciplinary teams to meet to problem solve for students at risk as a result of major changes in federal legislation to the Individuals with Disabilities Improvement Act (IDEA, 2004).

Changes in legislation. With the reauthorization of IDEA (2004), a process known as response to intervention (RtI) was permitted and specifically indicated as an alternative to the discrepancy model for identifying learning disabilities. This reauthorized statute indicates that a state “must permit the use of a process based on the child’s response to scientific, research-based intervention; and... may permit the use of other alternative research-based procedures for determining whether a child has a specific learning disability” ([34 CFR 300.307] [20 U.S.C. 1221e-3; 1401(30); 1414(b)(6)]). This model varies significantly from the traditional model of identification in that it does not require formal intelligence and achievement testing, but includes consideration of a child’s response to research-based interventions. Other modifications allow schools to use up to 15% of special education funds toward preventative programming for students at-risk (U.S. Department of Education, 2007). The purpose of preventative programming is to offer opportunities for students to benefit from evidence-based practices without requiring special education services (Fuchs et al., 2004). It also allows for special education service providers such as speech-language pathologists and special education teachers to serve as members of problem-solving teams for students considered at-risk.

These dual purposes help explain the wide use of RtI and the interdisciplinary teams within.

RtI is used to address the needs of students at-risk. Although forms and definitions vary, RtI teams currently are embedded in the United States school systems and are present to some degree in the rules or guidelines for all 51 state education departments (including the District of Columbia) (National Center on Response to Intervention [NCRI], 2010). According to a survey reviewing 50 states' RtI practices (collected from state department websites and phone interviews to stated education representatives), many RtI initiatives are present in local and intermediate school districts that are independent of state oversight (Berkeley, Bender, Peaster, & Saunders, 2009). These initiatives make RtI common, but there exists a great deal of ambiguity in how to implement the process and what decisions can be made from the data collected (Fletcher et al., 2014; Zumeta, Zirkel, & Danielson, 2014).

In summary, although used widely, implementation of RtI processes and purposes vary widely in school districts nationally (Truscott, Cohen, Sams, Sanborn, & Frank, 2005; Zumeta et al., 2014). The most widespread method schools use to operationalize RtI is in three tiers of instruction, with each tier indicating increasing levels of individualized intervention support for the student. The first of these tiers usually provides support with standard materials in the general education setting using core instruction and universal screening (Berkeley et al., 2009). The second tier usually involves intensive instruction outside of the classroom, often in small groups, but in the context of general education (Fuchs & Fuchs, 2007). The third tier often is synonymous with special education identification, but not necessarily; regardless, it involves

increasingly intensive and individualized, planned, specialized treatments (Michigan Department of Education, 2010; Troia, 2005).

One component of RtI that is common among most, if not all, school districts is the use of interdisciplinary problem-solving teams. This key component of RtI is described in both the federal guidelines (IDEA, 2004) and in many state and local guidelines, including in the state of Michigan (Michigan Department of Education, 2010), where this study was conducted. Two approaches are common: *problem solving* and *standard protocol*. The problem solving approach highlights teams holding meeting to discuss concerns for the student, in which they engage in planning, monitoring, and evaluating interventions. The standard protocol approach involves a team's oversight of implementation of a pre-selected intervention aimed at a specific skill set a student lacks, along with progress monitoring, and evaluation (Reschly, 2014; Vaughn & Fuchs, 2003). Communication among teams within each of these approaches is used to address both academic issues (including reading) and social/behavioral issues.

Students with language-learning disabilities (LLD). Teams are involved in identifying students as needing specialized services. Students needing special services include those with language impairments or learning disabilities. First, the team must review student data, conduct individualized assessments, and make recommendations (IDEA, 2004). These sources of data can include criterion-referenced assessments, but also must involve a comprehensive evaluation with multiple sources of information. States and local districts have options to add their own interpretations and specific requirements to evaluations, and therefore states may vary in how they identify students as needing specialized services (Fletcher et al., 2014; Reschly, 2014; Vaughn & Fuchs,

2003). As reported by Fletcher and colleagues (2014) in their report of two studies (an evaluation of student response to Tier 2 reading intervention and a computer-based simulation of issues that affect agreement in decision making), agreement across methods is variable, even within a system of identification of learning disabilities.

Interdisciplinary teams with members of varying expertise using multiple measures and methods are likely the best way of identifying learning disabilities.

Team Practices

Evidence of team effectiveness. Some evidence suggests that teams can have an overall positive effect on student outcomes and that professionals working together can be more effective than when working in isolation (Moore, Fifield, Spira, & Scarlato, 1989; Pool, Carter, & Johnson, 2013). More recently, interdisciplinary communication and collaboration have been associated with improvements in student outcomes in three ways: (1) design of interventions (Barth et al., 2008; Cook, Tankersley, & Landrum, 2009; Rahn-Blakeslee, Ikeda, & Gustafson, 2005; Ruby, Crosby-Cooper, & Vanderwood, 2011); (2) implementation feedback (Burns, Peters, & Noell, 2008; McNamara & Hollinger, 2003); and (3) objective discussion of problems with professionals presenting multiple perspectives (Rosenfield & Gravois, 1999). In a study of 47 elementary schools, 452 teachers, and 2,536 fourth grade students, Goddard, Goddard, and Tschannen-Moran (2007) found a correlation between teacher collaboration and positive reading and mathematics achievement in students. Despite these efforts to understand whether team practices can exert positive influences on student outcomes, there remain questions about how teams function and the degree to which team practices vary as a function of

students' educational status. Status distinctions include two points in particular:

(1) before special education, when a student is considered "at-risk," compared with

(2) after special education identification, when a student is served under an

Individualized Education Plan (IEP).

Variation in communication frequency and type. Two of the variables that may impact the team process are communication frequency and the type of communication event. When Malone and Gallagher (2010) explored teachers' recommendations about making the team process more effective and efficient, they found that 29% of the recommendations were related to timing or scheduling of meetings, and of those, 11% reflected an interest in increasing meeting frequency to improve communication.

Required meeting frequency for students receiving special education services is once per year (IDEA, 2004), but no requirements are set for meetings beyond the minimum for students with disabilities, and no studies were found that describe meetings other than IEP meetings to address reading problems for students receiving special education services. No meeting frequency previously has been associated with RtI approaches.

In an historical review of referral teams Safran and Safran (1997) found that the intervention assistance team model favored more informal teacher-to-teacher interaction and deemphasized the role of administration and specialists. As described by Goddard, Goddard, and Tschannen-Moran (2007), formal and informal configurations exist.

Study I of this dissertation provided preliminary evidence regarding variations in frequency and attendance at problem-solving meetings for students at risk compared with those identified for special education services. That study was based on data collected retrospectively via an online survey from school professionals. The results showed

reports of a median frequency of 4.0 meetings within a school year for students considered at-risk, whereas a statistically significantly lower median of 2.0 meetings was reported for those receiving special education services.

Variation in interdisciplinary members at communication events.

Interdisciplinary professionals may communicate in a variety of ways. Examples may include general and special education teachers working to meet the needs of students receiving special education services, school administrators meeting with general education teachers to design instruction, and special education teachers meeting to plan interventions with specialists such as speech-language pathologists. General education teachers may communicate with a variety of professionals. In fact, federal regulations (§ 300.324, IDEA, 2004) specify that general education teachers are required members of special education identification teams and at annual IEP meetings, both of which involve special services personnel. The perspectives of general education teachers likely remain important after students are identified and are receiving special education services, but there is limited evidence about the degree to which their involvement continues.

Some information is available regarding interdisciplinary team attendance and participation by professionals in different roles, particularly for meetings that are legally required. During and after consideration for special education services, federal law (§ 300.324, IDEA, 2004) indicates that IEP teams should comprise, at minimum, a special service provider (e.g., special education teacher, speech-language pathologist), general education teacher, local educational agency representative (typically an administrator), individual who can explain assessment results (often a school psychologist), and parent or guardian (Fuchs, Mock, Morgan, & Young, 2003).

Ysseldyke, Algozzine, and Allen (1981), in their study of 30 special education team meetings, noted that the general education classroom teacher is frequently involved in special education team meetings, but only 27% of those teachers actually participated by making contributions.

Several studies have reported that problem-solving teams prior to special education identification include professionals similar to those reported after identification. These professionals include general education teachers, special education teachers, administrators, and school psychologists (Bahr, Whitten, Dieker, Kocarek, & Manson, 1999; Benazzi, Horner, & Good, 2006; Slonski-Fowler & Truscott, 2004; Welch, Brownell, & Sheridan, 1999). In surveys of respondents from 51 state departments of education, Truscott, Cohen, Sams, Sanborn, and Frank (2005) found that problem-solving teams had an average of 9 (range 2–14) multidisciplinary specialists. Lhospital and Gregory (2009) in their prospective study of 33 elementary teachers' participation on pre-identification problem-solving teams found an average of four school personnel on teams. Buck, Polloway, Smith-Thomas, and Cook (2003) found that 49% of state departments indicated that intervention teams were led by school administrators or student service coordinators.

Study I of this dissertation, which defined a meeting as one that was “planned,” found that, collectively, respondents ranked principals, general education teachers, and reading specialists as having higher levels of participation for a student struggling but not identified as needing special education identification (i.e., pre-identification) compared to a student who did have an identified special education eligibility (i.e., post-identification). Conversely, respondents reported greater participation post than pre

identification for the roles of special education administrators, special education teachers, and social workers.

In their study of general education teacher engagement, Wilson, Gutkin, Hagen and Oats (1998) found 100% of general education teachers reported engaging in consultation during the prereferral phase and 95% during the intervention phase. As the students progressed through the process of referral, though, only 60% reported engagement during the referral phase and 20% during the post-referral phase. Fifteen percent of teachers were engaged in consultation throughout all four phases of the process. With general education teachers typically remaining the student's primary teacher, this lack of engagement may be of concern.

Efforts to standardize team practices. Some recommendations have been made to guide schools in the implementation of school-based interventions for students who are struggling and to standardize team practices for the adoption by schools. These efforts purport to provide schools with a system of problem-solving team implementation, including guidelines for professional involvement.

Examples of published approaches are Teacher Assistance Teams (TAT; Chalfant, Pysh, & Moultrie., 1979), Instructional Support Teams (IST; Kovalski, Tucker & Duffy, 1995), Prereferral Intervention Teams (PIT; Slonski-Fowler & Truscott, 2004), and Instructional Consultation Teams (ICT; Rosenfield & Gravois, 1999). These approaches vary in their empirical base, relying heavily on prior research for the design of the approach, but with few studies conducted post implementation. Each of these approaches involves recommendations for school professionals to work together to implement and evaluate interventions (Burns, Vanderwood, & Ruby, 2005; Papalia-

Berardi & Hall, 2007), such as two general education teachers or a general education teacher and a speech-language pathologist. None of them, however, recommends a standard protocol in meeting frequency or attendance.

The ICT model (Rosenfield & Gravois, 1999) of team problem-solving was adopted by the school system that provided the data for this study. The ICT manual prescribes that teams be formed for the purposes of addressing student needs and further indicates that such teams should include the principal, ICT team facilitator, resource specialists (e.g., reading and math specialists), and general education teacher. The ICT team facilitator role can be held by an individual in any number of positions, such as a special education teacher, psychologist, general education teacher, or social worker, who has completed the special training. This system addresses meetings for students at risk, but does not describe meetings to be held if a student's status changes and special education services are deemed necessary. Empirical evidence provided by the authors of the ICT model supports this approach (e.g., Gravois & Rosenfield, 2006; Kaiser, Rosenfield, & Gravois, 2009) through studies of evaluating the team itself, addressing instructional mismatches, and the identification of minority students with disabilities.

Summary

Although it is not always obvious or explicit, it is implied that elementary problem-solving teams are meeting to discuss students in three status groups: (1) when a student is considered typically developing (TL), (2) prior to special education when a student is considered "at-risk" due to literacy and learning problems (LLR), and (3) after special education identification for a language disorder or language-based learning

disability (LLD). Some prior research has addressed the effectiveness of teams for students that include the variables of communication frequency, type, and attendance (e.g., Fuchs et al., 2003; Truscott et al., 2005), but much of the literature is theoretical and not based on direct comparisons for students from differing status groups. From the literature currently available, it is suspected that these three groups of students (TL, LLR, and LLD) will vary in frequency of communication events, type of events, and interdisciplinary attendance at these events. Understanding these differences may be critical to understanding the best ways to address students' learning needs.

Research Purpose and Questions

The purpose of this study was to gather information about communicative events (i.e., formal and informal team “meetings”) concerning students in three different status groups (TL, LLR, and LLD). Participants in these events were considered to be two or more people communicating about a particular student, thus constituting members of loosely defined “teams.” The study was designed to address questions about how frequently such teams communicate to address student needs and who participates in these communication events. Differences in these three variables are explored in greater depth with the prospective design of this study than they were in the survey study that provided preliminary research for this investigation. Specifically, the current study addressed the following four research questions:

1. Are there differences in frequencies of student-focused communication events reported by general education teachers as occurring biweekly over a 5 months

period (December to May) for students in one of three categories of academic status (TL, LLR, or LLD)?

2. Are there differences in frequencies of communication events reported by general education teachers by type (informal or formal) for students in one of three categories of academic status (TL, LLR, or LLD)?
3. Are there differences in frequencies of attendance reported by general education teachers by category of interdisciplinary professional taking part in communication events for students in one of three categories of academic status (TL, LLR, or LLD)?
4. Is there evidence in the reports of special service providers (special education teachers and SLPs) that they participate in communication events for students with LLD of which general education teachers may be unaware?

Methods

This study was designed to contribute information about lesser-studied aspects of team problem-solving processes, including both formal team meetings and informal communication events used to discuss specific students. Data were collected prospectively by gathering biweekly reports over the five-month period (from December 1–May 30, 2013) from general education teachers, special education teachers, and speech-language pathologists in first through fifth grade classrooms in a school district in Michigan about students within their classrooms who met criteria as TL, LLR, and LLD. By carefully examining each communication event held between two or more individuals

focused on individual students, the goal was to contribute to a more complete understanding of the nature of team communication.

School District Setting

The participating school district, which is in a semirural area in Michigan, incorporates a single large consolidated elementary school with 1,396 students in grades one through five. Students in this elementary school are identified as 87.9% Caucasian, 4.2% Hispanic, 1.3% Asian, 1.2% Black, 0.7% Indian, and 0.1 % Pacific Islander. Slightly more male students (53.3%) are enrolled than female (46.7%). Students receiving free or reduced lunch make up 19% of the school population. Parent-teacher conferences are scheduled twice per year (once during the course of this study) for students in all three status groups, which were based on categories related to learning to read as being typical learners (TL), having literacy-learning risks (LLR), or receiving special education as a student with a language disorder or learning disability involving learning to read (LLD).

Student problem solving in the participating school district involves a team approach to address problems in learning to read, primarily for students at risk, during the special education identification process, and for annual updates for students with identified disabilities. A team is engaged when a teacher requests assistance, typically because a student earns low scores on curriculum-based measurements, or when parent recognizes reading difficulty. This team typically involves at least two professionals, including the general education teacher. The team is tasked with fitting appropriate interventions to match the student's needs.

If a struggling student does not show adequate gains as determined by the general education teacher, reading specialist, and parent, that student is referred for an evaluation for potential qualification for special education services. This process of evaluation uses a new team of professionals qualified to make eligibility decisions. The process of evaluation and identification follows federal and state policy and uses a special education evaluation team model. It involves implementation of a specific series of steps to determine whether or not a student qualifies for special education services. These steps include using “patterns of strengths and weaknesses,” which can be used for qualifying students with a learning disability (Michigan Department of Education, 2010).

The IEP team reviews student data, including already collected RtI data gathered during the ICT process. These data include interventions and progress toward student academic goals when available. Individualized assessments by the school psychologist and/or speech-language pathologist also are completed. These sources of data can include criterion-referenced assessments, but, when there are questions about a possible learning disability, the team must consider at least one standardized assessment administered by the school psychologist. A pattern of weaknesses is found when at least four sources of data show scores that fall below the 9th percentile in one of the learning disability content areas (i.e., Basic Reading, Oral Reading Fluency, Reading Comprehension, Math Calculation, Applied Math, Written Expression, Oral Expression, Listening Comprehension). A pattern of strengths is found when at least three sources of data in a single area fall above the 25th percentile. Both a pattern of strengths and a pattern of weaknesses must exist in order to for the student to qualify for services under the

category of learning disability, related to the “specific” component of the learning disability construct (Zumeta et al., 2014).

To identify a student with language impairment, a similar process of combining teacher/parent reports, curricular progress, and standardized assessments is used. The speech-language pathologist collects one or more spontaneous language samples and administers at least one individualized assessment measures. According to local policy, scores below the 9th percentile and consideration of the impact of the language on the student’s function in the curriculum drive decision-making. Similar to learning disability diagnostic criteria, work samples and reports from parents and teachers are examined and considered.

Participants

Teacher participants. Thirty-four school professionals were invited to provide data for the study. This group comprised 29 general education teachers, 4 special education teachers, and 1 speech-language pathologist. All of them were members of the professional staff at a single school district in a Midwestern state. Human Subjects Institutional Review Board (HSIRB) approval was gained (Appendix C), and invitees were told the study would involve completing bi-weekly online reporting about communication events held and providing responses on a hard-copy reporting form (Appendix D) twice during the duration of the study.

General education teachers were eligible to be invited if their classes included at least one student receiving special education services for a language impairment and/or learning disability involving reading. Professionals who agreed to participate included 26

of the 29 invited general education teachers (89.7%) in grades 1 through 5, as well as all four special education teachers and the one speech-language pathologist who worked with students at these grade levels (100%). The total participation response rate of professionals invited was 91.2%. The general education teachers varied in grade levels assigned: 1st grade ($n = 2$), 2nd grade ($n = 3$), 3rd grade ($n = 8$), 4th grade ($n = 6$) and 5th grade ($n = 7$).

The four special education teachers and one speech-language pathologist were reporting only on students in the LLD status group. The general education teachers were reporting on the students enrolled in the study from their class from all three status groups. Overlap in reporting occurred only for the LLD group. That is, one speech-language pathologist reported on five students, and four special education teachers reported on 16 students, who also were the focus of reports for 26 different general education teachers. For one student, professionals in all the roles (general education teacher, special education teacher, and speech-language pathologist) reported on communication events for the same student. As an incentive, participating professionals received two gift cards during the duration of the study of \$10 each. The goal was for each general education teacher to report on biweekly communication events for two students from each of the three groups (TL, LLR, and LLD).

Student participants. HSIRB approval was gained before inviting student participation in the study. The invitation process involved sending descriptions of the research and parental permission forms home to parents or guardians of potential student participants. The eligible pool of student participants were students enrolled in the classrooms of the general education teachers who agreed to take part in the study and

who met inclusion/exclusion criteria for one of the three academic status groups defined for this study.

Students in the TL group were considered as having typically developing language/literacy skills if they had never been referred for special testing in the area of speech-language or literacy skills and if they received no additional interventions (e.g., tier 2 RtI services) and no additional services during the school day. Students in the LLR group met criteria as having literacy-learning risk if they had shown difficulty with learning to read and had received at least one reading intervention outside the classroom, but had not been found eligible for special education on the basis of having a language impairment or learning disability (or any other special education category). Students in the LLD group met criteria as having a language-learning disability if they received special education services for either a diagnosed learning disability on the basis of reading, speech-language impairment on the basis of language, or both. Students and parents who participated in the research received incentives of \$15 and \$10 gift cards, respectively.

From the set of potential participants, teachers were asked to select two students from each status group whose parents would receive parental invitations to take part in the research. In the case of one teacher, only one student met criteria for the LLD group, but two students still were invited from this teacher's classroom in both the LLR and TL categories. If parental responses to the invitations were not received after one week's time, invitations were sent to the parents of alternate students in these three sub-groups (as available) to attempt to fill the sampling pool. If all 26 teachers had had six students participating (two in each of the three student status groups), 156 elementary school

students would have been enrolled. Because there were fewer eligible students to draw from in the LLR and LLD categories, the numbers of participants in those categories were smaller. The actual sample comprised 101 students for whom parental permission and child assent were obtained, with one student later dropping out of the study, for a final total of 100 student participants, distributed as follows: 47 students in the TL group, 30 in the LLR group, and 23 in the LLD group (see Table 3.1).

Table 3.1

Total Numbers of General Education Teachers by Grade Level and Students on Whom They Agreed to Report

Grade	Number of Teachers	Number of Students by Category and Grade		
		TL	LLR	LLD
1 st	2	3	2	0
2 nd	3	4	4	3
3 rd	8	11	9	7
4 th	6	11	7	6
5 th	7	16	10	7

Because this was a study that involved tracking communication events prospectively over a five-month period, and because some of the students were considered at risk of needing more intensive (i.e., special education) services, student status had the potential to shift across the course of the study, particularly for students in the LLR group. A shift in status occurred for only one student, however, and the change in status was from LLD (on the basis of language impairment) to LLR, five weeks into the study. The change occurred after an IEP meeting was held for the student and it was

determined the student no longer met eligibility requirements as having language impairment. Because this student was categorized as LLR for 8 out of the 11 reporting periods, the student was included in the LLR group for analyses. This case example is considered within the presentation of results for individual cases.

Use of the Test of Integrated Language and Literacy Skills (TILLS) to verify language and literacy status. All students enrolled in the current study also were enrolled in a study designed to gather standardization data for a new Test of Integrated Language and Literacy Skills (TILLS, standardization version 2.0; Nelson, Helm-Estabrooks, Hotz, & Plante, 2011). Thus, formal test scores were available to compare the students directly on a comprehensive measure of spoken and written language. The exceptions were two students whose parents gave permission to participate in the research but who did not respond to repeated attempts to schedule testing of their children outside of school hours; therefore, no TILLS scores are available for these two students. The general education teachers participating in this study were unaware of their students' TILLS scores during the study.

To verify language and literacy status, TILLS composite scores were created by totaling the z -scores for the 15 TILLS subtests for the 98 students who completed TILLS testing. These composite TILLS z -scores were analyzed using a one-way ANOVA. This analysis showed a statistically significant effect of status group on the total z -scores for the students, $F(2, 94) = 69.67, p < .0001$. The mean composite z -score for students in the TL group was 2.95 ($SD = 7.28$; CI .71, 5.19); the mean for the LLR group was -14.36 ($SD = 9.91$; CI $-18.08, -10.66$); and the mean for the LLD group was -22.46 ($SD = 10.60$; CI $-26.94, -17.99$). Post hoc analysis of these results using the Tukey test showed

significantly higher TILLS scores for TL than either LLR or LLD groups ($p < .0001$) and significantly higher scores for LLR than LLD group ($p = .004$). These results confirmed that there were quantifiable differences in the language/literacy performance of students in the three status groups.

Teacher reporting tool. The communication event data collection tool for this research was an experimenter-designed bi-weekly online reporting form. The data collection tool was designed to gather information about the key study variables of communication event frequency, type, and attendance. Other questions on the reporting form asked about the topic of the meeting and any recommendations. These elements were the focus of Study III (considered in Chapter IV of this dissertation).

As a means of validating the tool, three focus groups of general education and special education teachers were asked to review the reporting form data collection tool prior to study implementation and to suggest any edits. The edited draft form was then sent to three different general education teachers and one special education teacher for trial and further, in-depth review. Feedback was generated, and further changes were made to create the final online reporting form. To ensure that all possible responses were captured, each section of the reporting form offered an open-ended “comment” section, where participants could add information beyond that specified.

Communication event frequency. Communication event frequency data were collected by responses to the question, “Did you have a meeting or contact in the last two weeks where this student was discussed?” combined with a later follow-up question, “Did you have another meeting/contact where this student was discussed?” which, if

answered positively, would generate a new page of the reporting form for an additional communication event, for an unlimited number of times.

Communication event type. Communication event type data were gathered through responses to the question, “What type of meeting/contact was this?” Choices for responses to this question included the choices, *chance meeting*, *written communication*, *phone call*, *informal but prearranged meeting* (which were collapsed under the category “informal communication event” for purposes of analysis), and the choices, *regularly scheduled meeting*; *formal*, *specially scheduled meeting*; *Section 504 meeting*; and *IEP meeting* (which were collapsed under the category “formal communication event” for purposes of analysis).

Communication event attendance. Communication event attendance data were collected through responses to the question “Who attended this meeting/contact?” Response choices included the three reporter categories (i.e., *general education teacher*, *special education teacher*, or *speech-language therapist*), as well as options to select as many of the following 14 roles as applied: *other general education teacher(s)*, *special education teacher(s)*, *speech-language therapist(s)*, *reading specialist*, *math specialist*, *social worker*, *behavior interventionist*, *director of teaching and learning (vice principal)*, *principal*, *special education administrator*, *psychologist*, *parent(s)*, *private tutor*, *outside agency*, or *other*.

Procedure

Professionals were asked to use the online form to report at the end of each two weeks for a total of 22 weeks, from December 14–May 24 (with a one-week break each

for winter holiday and spring vacation). Thus, a total of 11 possible reports would constitute a complete set. Reminders were sent two days after each reporting form was sent via email if a response was not yet received. The reports completed by the 26 general education teachers provided the primary source of data for this study.

Analysis Methods

Analyses were conducted to answer the three major research questions using data from the general education teachers' reports. To answer these questions, the three dependent variables of communication event frequency, type, and attendance were analyzed to compare responses by the general education teachers as a function of student status. Because of missing data for some teachers who did not report during one or more reporting periods, all variables first were calculated as rates by dividing the collected responses by the number of times the respondent reported. For example, if a respondent reported only 10 of the 11 reporting times, the event's frequency would be divided by 10, rather than 11. Respondents with less than seven reporting times were excluded from the sample, as these were deemed incomplete. This calculation led to meeting frequencies being reported as proportions, using up to two decimal places.

Because the data were independent and continuous, associations among rates for the type of event, and event attendance were tested. Variables of event frequency and event type were both continuous variables. Rate for these two variables was determined by dividing the total number of collected responses for a particular category by the number of reporting forms completed. For each, an ANOVA or MANOVA was used to analyze the continuous variables. For event attendance, the number of times a particular

attendee was present at a communication event was determined by dividing the number of times a professional or parent was reported to be present by event incidence. Again, MANOVA was used for the analysis. An alpha level of .05 was set, and the analysis software, IBM SPSS Statistics, Version 20.0 was used to conduct the analyses.

Although one speech-language pathologist and four special education teachers also provided reports for most of the LLD students, the data were not independent of the general education teachers' reports; therefore, the primary analyses were conducted using responses from the general education teachers only. Raw data from the perspectives of other reporters (special education teachers and the one SLP) are reported in the final section of the results. This was done to gain some insight into how frequently events were held for the LLD students that the general education teachers might not have attended and, therefore, might not have known about. Frequencies are reported descriptively for this type of event based on the reports by the special needs personnel. These data were not included in the primary analyses.

Results

The following sections report the results of analyses conducted to address the three research questions, which asked about differences between groups related to (1) communication event frequency, (2) types of communication events, and (3) attendance at communication events. Data for these analyses came from reports of the general education teachers only. This was done to avoid problems of dependence because special services personnel were reporting on some of the same students as the general education teachers and would be expected to report on some of the same communication

events. To explore questions about these overlapping cases, the final section reports on results related to meeting frequency and attendance from the perspective of the special services personnel.

Communication Event Frequency and Type

The first research question asked about differences in frequency of communication events; the second asked about frequency of events categorized into two types (formal and informal). Descriptive results for both frequency and type of communication events by student status group are shown in Table 3.2. Respondents reported a mean frequency across all status groups of 0.50 events in a 2-week reporting period. Extrapolating this result translates roughly to one meeting every four weeks. The mean number of informal communication events was 0.44, whereas the mean number of formal events in a 2-week period is 0.10.

Results of the ANOVA used to analyze frequency of communication event by status group appear in Table 3.3. This table also shows results of the MANOVA for communication event type (formal, informal) by status group (TL, LLR, LLD). These analyses were used to answer the first two research questions regarding differences in student-focused communication events reported by general education teachers.

Table 3.2

Rate of Communication Events per Two-Week Reporting Period for Three Status Groups

	Mean number of events per two week reporting period (<i>SD</i>) by student status group			
	TL <i>n</i> = 47	LLR <i>n</i> = 30	LLD <i>n</i> = 23	Total <i>N</i> = 100
Total of all events	0.30 (.24)	0.78 (.40)	0.56 (.39)	0.50 (.39)
Informal event total	0.24 (.27)	0.73 (.43)	0.47 (.41)	0.44 (.42)
chance meeting	0.08 (.14)	0.23 (.29)	0.29 (.31)	0.18 (.25)
written communication	0.10 (.17)	0.25 (.20)	0.09 (.11)	0.14 (.18)
phone call	0.03 (.06)	0.11 (.16)	0.02 (.04)	0.05 (.10)
informal but prearranged meeting	0.03 (.08)	0.12 (.16)	0.07 (.09)	0.07 (.12)
Formal event total	0.06 (.05)	0.16 (.12)	0.11 (.09)	0.10 (.10)
formal, regularly scheduled meeting	0.004 (.02)	0.02 (.04)	0.02 (.04)	0.01 (.03)
formal, specially scheduled meeting	0.05 (.05)	0.12 (.12)	0.04 (.06)	0.07 (.09)
Section 504 meeting	0	0.003 (.02)	0	0 (.01)
IEP meeting	0	0.02 (.05)	0.05 (.06)	0.02 (.04)

When comparing the student language status groups, differences were found between the status groups (TL, LLR, and LLD) for frequency of total communication events. A significant effect of student status was present for the mean communication event rate. The Welch statistic was used due to lack of homogeneity of variance, showing $F(2, 44.45) = 19.09, p < .0001$. Tukey post-hoc analysis revealed respondents reported a higher mean number of communication events for the LLR groups, at close to one per week (.78; $SD = .40$; CI .63, .92) compared to the TL group (.30; $SD = .24$; CI .24, .37),

$p < .0001$. Statistically significantly more communication events also were held for the LLD group (.56; $SD = .39$; CI .39, .73) compared to the TL group, $p = .007$. Approaching significance at $p = .056$ was the higher number of communication events for the LLR group (.78; $SD = .40$; CI .63, .92) compared to the LLD group (.56; $SD = .39$; CI .39, .73).

Table 3.3

Rate of Informal and Formal Communication Events per Two-Week Reporting Period for Three Status Groups

	Mean number of events per two-week reporting period by student status group						F^a	p value
	TL $n = 47$		LLR $n = 30$		LLD $n = 23$			
	LS Mean	SE	LS Mean	SE	LS Mean	SE		
Informal event	0.236	.053	0.734	.066	0.473	.075	17.61	<.0001
Formal event	0.059	.013	0.158	.016	0.107	.018	11.85	<.0001

^a MANOVA (F) was used to determine if differences in rates between three status groups were statistically significant.

To investigate the question whether type of communication event varied based on status group, a MANOVA was conducted with informal and formal communication event rates as dependent variables and student group status as the independent variable. Means and standard deviations for the collapsed formal and informal event type categories, as well as their subtypes (with numbers too small to be analyzed statistically), are reported in Table 3.3. Consistent with the one-way ANOVA reported previously, the results, using

Pillai's trace (due to uneven sample sizes) as the statistic, showed a significant effect of student status across both types of events, $V = 0.36$, $F(4, 194) = 10.48$, $p < .0001$.

The associated ANCOVA on the outcome variables revealed the correlation between formal and informal communication events by status groups. Significance was found for formal communication events after controlling for the number of informal events, $F(2, 96) = 6.63$, $p < .0001$, and for informal communication events after controlling for the number of formal events, $F(2, 96) = 11.85$, $p < .0001$. Even though formal and informal communication events were correlated, when individually controlled for the other, there were statistically significant differences among status groups in frequency. The interesting findings were in the pairwise comparisons, adjusted by the Bonferroni correction for multiple analyses, which showed that there were statistically significantly higher reports of communication events in the informal category for the LLR group than in the TL group ($p < .0001$). For formal communication events, statistical significance was found for the differences between the LLR group and the TL group, with more formal communication events being reported for the LLR than the TL group ($p < .0001$). Other pairwise comparisons were not significant.

Communication Event Attendance

The third research question asked about differences in communication event attendance based on student status. Table 3.4 shows descriptive statistics of reported role attendance for three status groups (TL, LLR, LLD). Examination of Table 3.4 reveals sparse data in many locations. This was addressed by collapsing the staff roles in the following way: *special education teacher* and *speech-language pathologist* were coded as

specialists; principals, vice principals, and special education administrators were coded as *administrators*; reading specialists, math specialists, intervention specialists, and social workers as *general education consultants*. As seen in Table 3.5, the instance of sparse data has been resolved.

Table 3.4

Mean Number of Communication Events Attended by Role Over Five-Month Period for Three Status Groups

Role	Student Status Group			Total
	TL	LLR	LLD	
Gen. ed. teacher (self)	1.0	1.0	1.0	1.0
Other gen. ed. teacher(s)	0.11	0.14	0.05	0.11
Sp. ed. teacher(s)	0.06	0.23	0.67	0.30
Speech/language(s)	0	0.03	0.12	0.04
Reading specialist	0.01	0.11	0.03	0.06
Math specialist	0.02	0.04	0.01	0.02
Social worker	0.04	0.04	0.07	0.05
Behavior interventionist	0.01	0.02	0.01	0.02
Vice principal (DTL)	0.01	0.10	0.06	0.07
Principal	0.01	0.02	0.09	0.04
Sp. ed. administrator	0	0	0	0
Psychologist	0	0.06	0.01	0.03
Parent(s)	0.66	0.45	0.26	0.46
Student(s)	0.08	0.07	0.04	0.06
Private tutor	0	0	0	0
Outside agency	0	0	0.01	0

Table 3.5 shows the MANOVA findings for the attendance counts totaled, with collapsed staff role serving as the dependent variable and status as the independent variable. Results, with Pillai's trace, indicated a significant difference among student status groups present across staff roles, $F(6, 1032) = 37.93, p < .0001$. Statistically significant differences were found in particular roles present at communication events across all student status groups for the following roles: *administrators* ($p = .006$), *specialists* ($p < .0001$), and *general education consultants* ($p = .018$).

Table 3.5

Rate of Communication Events Attended by Collapsed Role Over Five-Month Period for Three Status Groups

	Mean number of events per two-week reporting period by student status group							
	TL <i>n</i> = 47		LLR <i>n</i> = 30		LLD <i>n</i> = 23		<i>F</i> ^a	<i>p</i> value
	LS Mean	<i>SE</i>	LS Mean	<i>SE</i>	LS Mean	<i>SE</i>		
Administrators	.028	.025	.123	.019	.119	.025	5.197	.006
Specialists	.064	.032	.189	.024	.681	.033	104.66	<.0001
General ed. specialists	.078	.026	.143	.019	.059	.026	4.042	.018

^a MANOVA (*F*) was used to determine if differences in rates between three status groups were statistically significant.

The associated ANCOVA on the outcome variables revealed the correlation between groups of professionals attending by status groups. Significance was found for administrators after controlling for the number of specialists and general education consultants, $F(2, 517) = 17.59, p < .0001$, and for specialists after controlling for the

number of general education consultants, $F(2, 517) = 104.38, p < .0001$. Further findings were in the pairwise comparisons, adjusted by the Bonferroni correction, which showed that there were statistically significantly higher reports of administrator attendance for the LLR group than the TL group ($p = .007$). Administrators also were reported with higher means in the LLD group than the TL group ($p = .032$). Reports revealed specialists present for more communication events for the LLR and LLD status groups than for the TL group ($p = .006; p < .0001$). Specialists were reported present for more events for the LLD group than the LLR group ($p < .0001$). General education specialists were reported in attendance for a higher number of events for the LLR group than the LLD group ($p = .03$). Other pairwise comparisons were not significant.

Reports for students with LLD from the perspectives of special education personnel. Reports of communication event frequency also were collected for a subset of 23 students with LLD, 20 of whom had reports from both the general education teacher and a specialist (special education teacher or speech-language pathologist) and one who had reports from the general education teacher and both types of specialist. The data for these students are displayed in Table 3.6. Four of the 21 students in the category of LLD had the general education teacher report a higher frequency of communication events than the special service provider. Seventeen of the students had special service providers report higher frequency of communication events than the general education teacher.

Table 3.6

Average Number of Communication Events per Two-Week Period for Students with LLD by Respondent

Study number	Respondent			Direction & magnitude of difference
	General ed teacher	Special ed teacher	Speech/ language	
1	1.73	.57		> 1.16 +
2	.18	1.01		< .83 -
3	.36	.44		< .08 -
4	.27	.67		< .40 -
5	.88	.50		> .38 +
6	1.0	1.45		< .45 -
7	1.0 ^a			
8	1.18		2.56	< 1.38 -
9	.55	1.0		< .45 -
10	.82	1.56		< .74 -
11	.30		2.67	< 2.37 -
12	.22	1.33		< 1.11 -
13	.27	.75		< .48 -
14	.18	.43	.60	< .25 ^b -
15	.55	.40		> .15 +
16	.36	.89		< .53 -
17	.50		1.2	< .70 ^a -
18	.50		1.7	< 1.2 ^a -
19	.36	.80		< .44 -
20	.27	.44		< .17 -
21	.73	.90		< .17 -

^a No special service provider due to lack of special education teacher consent.

^b Special education teacher was used to calculate difference.

Reports of communication event attendance also were collected for the same subset of students. As indicated in Table 3.7, in each individual case, there were communication events reported by the general education teacher that did not include the special education teacher or SLP, and vice versa.

Table 3.7

Average Attendance by Communication Events per 2-Week Period for Students with LLD by Respondent and Study Number

Study Number	Respondent	Event Attendee		
		General Ed. Teacher	Special Ed. Teacher	SLP
1	General ed. teacher	19 (100)	14 (73.7)	0
	Special ed. teacher	3 (75)	4 (100)	0
2	General ed. teacher	2 (100)	2 (100)	1 (50.0)
	Special ed. teacher	1 (14.3)	7 (100)	0
3	General ed. teacher	4 (100)	4 (100)	0
	Special ed. teacher	1 (25)	4 (100)	0
4	General ed. teacher	3 (100)	3 (100)	0
	Special ed. teacher	1 (25)	4 (100)	0
5	General ed. teacher	7 (100)	5 (71.4)	0
	Special ed. teacher	4 (80)	5 (100)	0
6	General ed. teacher	4 (100)	3 (75.0)	0
	Special ed. teacher	7 (58.3)	12 (100)	1 (8.3)
7 ^a	General ed. teacher	9 (100)	5 (55.6)	0
9	General ed. teacher	6 (100)	4 (66.7)	0
	Special ed. teacher	5 (45.5)	11 (100)	0
10	General ed. teacher	9 (100)	8 (88.9)	0
	Special ed. teacher	7 (50)	14 (100)	0
12	General ed. teacher	1 (100)	1 (100)	0
	Special ed. teacher	2 (50)	4 (100)	0

Table 3.7—Continued

Study Number	Respondent	Event Attendee		
		General Ed. Teacher	Special Ed. Teacher	SLP
13	General ed. teacher	3 (100)	3 (100)	0
	Special ed. teacher	3 (50)	6 (100)	0
15	General ed. teacher	6 (100)	6 (100)	0
	Special ed. teacher	2 (50)	4 (100)	0
16	General ed. teacher	4 (100)	4 (100)	0
	Special ed. teacher	4 (50)	8 (100)	1 (25)
19	General ed. teacher	4 (100)	4 (100)	0
	Special ed. teacher	2 (25)	8 (100)	0
20	General ed. teacher	3 (100)	3 (100)	0
	Special ed. teacher	4 (100)	0	0
21	General ed. teacher	8 (100)	5 (62.5)	0
	Special ed. teacher	2 (22.2)	9 (100)	0
14 ^b	General ed. teacher	2 (100)	2 (100)	0
	Special ed. teacher	3 (100)	9 (100)	1 (33.3)
	SLP	0	5 (83.3)	6 (100)
17	General ed. teacher	5 (100)	0	2 (40)
	SLP	4 (66.7)	0	6 (100)
18	General ed. teacher	5 (100)	0	2 (40)
	SLP	11 (64.7)	2 (11.8)	17 (100)
11	General ed. teacher	3 (100)	0	2 (66.7)
	SLP	4 (50)	0	8 (100)
8	General ed. teacher	13 (100)	4 (30.8)	1 (53.8)
	SLP	16 (69.6)	2 (8.7)	23 (100)

^a No special service provider due to lack of special education teacher consent.

^b Special education teacher and SLP involved with this case.

In the descriptive summary of these cases (Table 3.8), general education teachers reported special education teachers present at 66.2% of meetings held. Conversely, special education teachers reported general education teachers present at 41.8% of meetings held. Therefore, over half (58.2%) of meetings held about students with disabilities the respondent did not report the presence of a general education teacher. Similarly, 33.8% of meetings reported by the general education teacher may not have had a special education teacher present. General education teachers reported SLPs present at 11.8% of communication events held about students in the LLD group, whereas SLPs reported general education teachers present at 58.3% of events held. No respondent reported another respondent present at all the communication events reported.

Table 3.8

Average Attendance by Communication Events per 2-Week Period for Students with LLD by Respondent

Respondent Role	Event Attendee		
	General Ed.	Special Ed.	SLP
General Ed.	136 (100)	90 (66.2)	16 (11.8)
Special Ed.	52 (41.8)	108 (100)	5 (4.6)
SLP	35 (58.3)	9 (15)	60 (100)

Discussion

The general purpose of this study was to examine the interdisciplinary professional communication events in a sample school related to students in three different status groups, that is, students with typical learning, students considered at-risk

for reading problems, and students with identified reading or language disabilities (called TL, LLR, and LLD, respectively, within this study). Although group differences in communication event frequency and type could be expected to some extent, given the differences in legal requirements for the LLD group and the problem-solving model through ICT used for the LLR group, as far as I know this study is the first to provide empirical evidence for higher frequencies of communication events for students in the LLR and LLD groups than for the students with TL. Furthermore, this research indicates that informal meetings occur significantly more often across all groups, but to a greater degree for the LLR group than for either the LLD or TL group considered separately. Communication event attendance by professional role varied, but key findings include higher attendance rates in the LLD group for specialists than the LLR group, but lower for general education consultants.

As noted in the previous paragraph, it is not surprising that students with LLR and LLD would have higher communication rates than those with TL, as reported by general education teachers. Teams would have little reason, beyond the scope of regular newsletters and parent conferences, to consult with each other about students with TL. Class newsletters and general email bulletins, which might be sent regarding students with TL, were forms of communication that were specifically excluded from this study. This is not to suggest that students with TL would not benefit from the communication events described in this study, but rather that the students in this group are not learners experiencing academic difficulty and thus, are unlikely to come to the attention of problem solving teams. The finding that there is a statistically significant difference between the two status groups who were struggling with literacy (LLR and LLD) and the

TL group in the mean number of communication events confirms expectations that interdisciplinary teams are communicating about students who are struggling.

Consistent with IDEA (2004) regulations that specify that annual IEP meetings be held for students with disabilities, all students with LLD did have at least one formal communication event through the course of this study as reported by the general education teacher (although IEP meetings could have been held during the portion of the school year not observed). When reviewed descriptively, the special service providers reported a higher frequency of events for these same students. This may suggest communication events occurring in which the general education teachers were not present. As reported by the general education teachers, communication event frequency differences approached significance when comparing the LLD group with the LLR group, in the direction of a smaller number of communication events being held for students in the LLD category than for those at risk. With a larger sample size and therefore more power in the analysis, this difference might be found to be significant. Fewer communication events for students with LLD than with LLR is consistent with the results found in cross-sectional retrospective research in Study I, where I found that survey respondents reported a smaller number of meetings held for a hypothetical student who was considered at-risk for reading problems compared to a student already receiving special education services.

A number of reasons could explain the pattern of fewer reported communication events for students in the TL and LLD groups by the general education teachers. First, students in the LLR group might be perceived as more likely to benefit from the collaboration of more than one individual, given the heavy emphasis on team problem

solving for students in that status group (e.g., Benazzi et al., 2006; Burns et al., 2005; IDEA, 2004). General education teachers also may have increased awareness of communication events about the students in the LLR group to discuss increases in programs and/or services (e.g., small group instruction, special education testing) that can address the concerns of students who are struggling within the general education system.

Law and policy also may have an effect on the frequency, types, and attendance at communication events for students in the LLD group. General education teachers might be less involved in such meetings because perceptions may exist that once a student is receiving special education services, the specialist assigned to the student's case has all of the skills necessary to meet his or her needs, and general education teachers are less critical. An artifact that may have affected these results is that general education teachers may not have known about all communication events that occur for students receiving special education services and, therefore, may have underreported the communication event rate for these students. The results from the other two reporters support this interpretation, as they noted a high frequency of communication events. The implication of the federal special education law (IDEA, 2004) may be that essentially one meeting (the IEP meeting) is sufficient for students with LLD. There may be a perception that communicating about students with LLD may be identified as a formal meeting (e.g., and IEP meeting) that requires advanced notice to parents and other persons involved with the student's case (IDEA, 2004). If general education teachers believe they should not communicate about a student without prior permission, it may be less motivating for them to seek collaboration with colleagues and parents. As indicated by the comparison of communication events by general education teacher and special service provider, there

may be communication events the general education teacher does not know about and/or is not present. However, as the present literature review suggests, collaboration as a team is considered best practice.

Another important finding from this study relates to more informal communication events collectively being reported by general education teachers, and more for the LLR group than the other two groups reported by these teachers. Concerns about academic learning may be a cause for more immediate communication, generating more frequent contacts that would be considered “informal.” Again, there may be concerns that informal communication events may be misidentified as a legally binding meeting such as an IEP, creating a reluctance to meet informally about a student in the LLD group (IDEA, 2004).

The finding that more informal communication events were reported by general education teachers than formal ones is not surprising in the elementary school setting. With the ease of technology, communication with parents by email and phone calls may be prevalent. Although beyond the scope of this study, conversations held between staff members over lunch, in the copy room, and while passing in the hallway may be frequent. The numbers for separate meeting subtypes were too small to analyze statistically; however, by looking only at raw means, descriptively the most frequent type of communication was “chance meeting” (informal), and the most common formal type was “formally, specially scheduled meeting.” It is important to note that parent-teacher conferences, held in March, were included in this study, adding at least one formal meeting that might not otherwise happen organically.

Event Attendance

Reported attendance at communication events when analyzed collectively and descriptively was consistent with prior literature (Bahr et al., 1999; Benazzi et al., 2006; Slonski-Fowler & Truscott, 2004; Ysseldyke et al., 1981), with general education teachers, administrators, parents, and special education teachers commonly present. In this study, general education teachers reported all the events in which they were present, as they were the primary reporters for this study. Other common staff included special education teachers (22%) and parents (55%). Less frequently, but with attendance of over 5% were other general education teachers (i.e., other than the reporting general education teacher), the director of teaching and learning (vice principal), and students.

Specialists, including both special education teachers and speech-language pathologists, attended fewer events for students in the LLR and TL groups than for the LLD group. This was predicted for the TL group, as it would not be expected that a student in that group would need consultation from a special educator.

Perhaps also not surprisingly, general education consultants (including reading specialists, social workers, and math specialists) in the LLR group than attended more events for the LLD group, as reported by the general education teacher. Reading and math specialists in this district work directly with students in the LLR group but not the LLD group. Results indicating less involvement for students with disabilities may be related to a reduction of these roles as a consultant once students qualify for special education.

Some implications can be drawn through the reports from general education teachers, special education teachers, and speech-language pathologists of communication

events for students in the LLD group. Interestingly, there are reports of communication events occurring as reported by special education teachers and speech-language pathologists without the presence of the general education teacher. The concern may be that this reflects similarly to the report of general education teacher engagement by Wilson, Gutkin, Hagen, and Oats (1998), in which they noted there was notably less engagement after special education referral (from 60% pre to 20% post). Also implied in the reports from varying respondents is that a variety of communication occurs for students in the LLD group, and may not be accurately captured by the reports of only the general education teachers.

Strengths and Limitations

One of the study's limitations is that the data were self-reported and therefore subject to bias. For example, primary respondents (i.e., general education teachers) might have their own implicit theories about the desired frequency of communication events and respond in ways that would confirm their hypotheses. Respondents also might have hypotheses about the relationships between the variables and answer accordingly. Additionally, it is possible that not all communication events were reported. Brief conversations in the hallway, for example, might not have been recorded, and some reporters may have been more likely to record these events than others. An oversampling of students in the TL group and an under sampling of the LLD group exist.

The strengths of this study are in the 2-week observation period and prospective design over 5 months (22 weeks). Although daily reports might have been better, the focus group suggested that a daily or weekly reporting period would have been too labor

intensive. It could have resulted in fewer participants, making the sample less representative. With responses collected every two weeks, respondents were able to either recall actual events accurately or refer to their notes. By focusing on one school district, I was able to more deeply investigate the practices of the general education teacher respondents with a high response rate. Additionally, I was able to collect and review data from multiple respondents about students considered to be LLD. These reports provided a more in-depth exploration of the differences in communication frequency and attendance by reporter. Nevertheless, a single district limits the generalizability of the study. To address this limitation, the generalizability of the present findings should be examined in other settings; elementary schools throughout the United States as well as middle school and high school settings.

Implications for Research

Many variables beyond the scope of this study may lead to variation in the composition and function of problem-solving teams and collaborating professionals. Variables worth exploring in the future research include the demographics of the professionals and students (e.g., age, length of time in profession, school size, socioeconomic background), rapport with other professionals, and level of administrative support. Longitudinal studies that explore more of these criteria would help the understanding of these relationships even further.

This study has other implications for future research. First, the finding that the higher number of informal communication events for students considered at-risk (LLR) than those identified and receiving special education services (LLD) suggests that

researchers may consider concentrated studies of the implications fewer communication events has for students with already identified disabilities. The number of informal communication events may be reduced for this group by a perception that general education teachers do not have as much influence with students already receiving specialized services than they do with students they are actively working to ensure they are receiving tailored instruction. Thus, more research about the role of the general education teacher as a member of the interdisciplinary team is important to ensure students in all status groups receive optimal team support.

Interdisciplinary team communication was consistently occurring across all status groups and for all reporters, but differences in the attendance at these events differed. These results support the need for further research into which disciplines in school teams are key to success for different types of student. For example, although special education teachers and principals were present more often for students in the LLD group than for those in the LLR group, perhaps professionals in these roles have important recommendations and input to offer, which is consistent with their identification as needing special education. Further research investigating the variables that influence student outcomes related to interdisciplinary teams is needed.

Implications for Practice

Several implications for practice can be drawn from this study as well. The higher rate of informal communication events (in contrast to formal) has implications for school systems. Traditional school meetings often involve scheduled, sit-down meetings. This research suggests the informal communication is more common. Administration may

consider encouraging a school culture or environment where such sharing and collaboration in an informal way is encouraged. Critical to problem-solving team success might be realizing that communication happens at unscheduled times and in settings that might be considered untraditional.

On a broader policy level, careful consideration should be given to interdisciplinary team training. The differences in involvement of principals, special education teachers, reading specialists, and school psychologists for students in different status groups as evidenced by this research bring to light questions about what team members are most critical to student success. Careful planning is necessary to ensure all students receive the highest qualified personnel working to problem-solve for their reading difficulties.

Difficult questions remain in the area of team problem-solving and collaboration. Is the current problem-solving team approach as represented in this study optimal for all students, regardless of status? What type of communication and between what team members results in optimal recommendations for students in varied status groups? This study describes the current state of communication for interdisciplinary teams in one elementary school. With a better understanding of how professionals communicate, professionals may be better able to make recommendations regarding how to address students' reading needs.

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CHAPTER 4

A PROSPECTIVE INVESTIGATION OF ELEMENTARY SCHOOL TEAM PROCEDURES: RECOMMENDATIONS MADE FOR STUDENTS OF DIFFERENT EDUCATIONAL STATUS

Background

Students struggling to read in the United States have been estimated as high as 4% of the elementary school population (U.S. Department of Education, 2009). The International Dyslexia Association (2010) estimates even higher rates of as many as 15-20% of students with difficulty in reading or language processing such that reading is below proficient. Of struggling readers, some are identified with learning disabilities. Nationally, the group of students increases by 37% in the upper elementary grades, with reading disabilities being the largest category (Wanzek & Cavanaugh, 2012). Addressing these students' reading concerns is of high importance in elementary schools, but questions remain regarding how these students' needs are met. Communication among professionals—particularly general education teachers, specialists, and general education consultants—is one of the ways schools problem-solve for struggling students. The focus of this research is to understand the variables within problem-solving teams that influence recommendations made regarding academic practices for struggling students.

Students who are struggling readers come to the attention of elementary school problem-solving teams typically when they fail to meet benchmarks established for universal screenings (Shapiro et al., 2011). Other triggers for students to be referred to elementary school teams related to problems in reading are when they score below the

expected level on school-wide assessments or when their teachers observe difficulties in classroom assessments and other activities (Wanzek & Cavanaugh, 2012; Weishaar, Weishaar, & Budt, 2002).

When needed, interventions may be recommended for such students.

Interventions may be defined as services that are planned and implemented in school systems with explicit goals to improve academic or social functioning (Sandomierski, Kincaid, & Algozzine, 2007). According to the federal legislation, the Individuals with Disabilities Improvement Act (IDEA, 2004), struggling students may receive individualized interventions in the context of general education or special education. Such services are involved in measuring responsiveness-to-intervention, which can contribute to prevention and identification of learning disabilities (NCRI, 2010; Zumeta, Zirkel, & Danielson, 2014).

Interprofessional teams engage in a range of communication activities aimed at making recommendations for students of different educational status. Professionals may meet to make recommendations about the most efficient and effective ways to address an individual student's academic learning needs, whether or not the student is experiencing learning difficulties. Professionals involved in meetings may include regular education teachers, administrators, specialists, and general education consultants. These professionals meet to discuss the academic and social progress of students for two primary reasons: (1) for any student to address academic needs (e.g., students who are struggling or students who are gifted and need further stimulation) or behavioral concerns, and (2) for students who need or are receiving special education services.

Communication aimed at planning interventions to address literacy learning concerns is common for students in two different status groups: (1) those with language-learning risks (LLR) for reading difficulty, who need additional instruction; and (2) those diagnosed with a language impairment or learning disability (LLD), who have been identified as needing special education services. Although the needs of both status groups may be similar, recommendations made for these types of students, as well as the attendance of professionals who meet about them, may be different. Communication activities held for students with typical learning (TL) also are considered in the current study to provide a comparison group. Recommendations made for all three groups of students, particularly the variables that influence those recommendations, are the primary focus of this investigation.

To address and identify students who are struggling with reading, elementary schools may use a variety of curriculum-based measures and evidence-based practices. These include assessments such as reading fluency measures, running records, and phonological awareness assessments to monitor reading progress and detect reading difficulties in elementary students early in their reading development (Fuchs, Fuchs, & Compton, 2004; Reschly, 2014; Shinn, 2007). Students who score below thresholds on reading screening assessments at any grade level come to the attention of problem-solving teams (Fuchs et al., 2004). Problem-solving teams are defined for this review as two or more adults engaged in active communication about a particular student.

The rationale for using the team approach to address concerns about students and to meet the expectations of education policy is based on the assumption that decisions made by groups have advantages over those made by individuals (Moore, Fifield, Spira,

& Scarlato, 1989; Pool, Carter, & Johnson, 2013). Team decisions, for example, can reflect a broader, less biased perspective of student need (Menlove, Hudson, & Suter, 2001). Multiple studies have shown that problem-solving teams have a sound theoretical base (e.g., Burns, Vanderwood & Ruby, 2005; Moore et al., 1989). A few studies have documented that team approaches can improve efficacy (e.g., Bahr, Whitten, Dieker, Kocarek, & Manson, 1999; Barth et al., 2008). However, Ruby, Crosby, Cooper, and Vanderwood (2011) make a point that few studies examine the nature of teams and the recommendations they make. Data regarding the recommendations made and variables related to these recommendations could help to address questions about the influence of a variety of team variables on student outcomes for both students considered at risk and students receiving special education services.

Although not specific to status groups, general information does exist related to the types of recommendations made for students who are struggling either academically or socially. This research has described recommendations for students struggling with reading skills as involving addition or modification of services (e.g., Slonski-Fowler & Truscott, 2004; Truscott, Cohen, Sams, Sanborn, & Frank, 2005; Wanzek & Cavanaugh, 2012). Specific to struggling readers, the seminal report by the National Research Council (Snow, Burns, & Griffin, 1998), called *Preventing Reading Difficulties in Young Children*, suggested the following research-based recommendations: (1) full-day kindergarten, (2) word reading skills, (3) vocabulary instruction, (4) reading comprehension in all areas, (5) specific comprehension skills in all areas, and (6) out of school reading. These overarching recommendations, in different configurations,

continue to be recommended by many organizations in the field of early education (Duke & Block, 2012).

Research Purpose

The central purpose of the current study was to examine the recommendations made for students in three different status categories—TL, LLR, and LLD in grades 1-5 in a single elementary school. Specifically, the study aims include team recommendations involving students and the association of professional attendance with recommendations at communication events related to students in three status groups. The following sections provide background information about how decisions are made for students in general and within this particular school system.

Recommendations for Students of Different Status Groups

Students considered at-risk of reading difficulty (LLR). Problem-solving teams have become increasingly common with the passage of Individuals with Disabilities Education Improvement Act (IDEA) revisions in 2004 that permitted and encouraged wide acceptance of response to intervention (RtI) approaches, which more recently have been described as a global approach of multi-tiered system of supports (MTSS) (National Center for Learning Disabilities, 2013). Communication among diverse professionals in the context of communication events, and the decisions made during these communication events, set the parameters for the intervention for the student. These recommendations may include increasing or modifying services if the student is struggling or maintaining or decreasing services if the student is making gains.

In a survey of 200 elementary schools, Buck, Polloway, Smith-Thomas, and Cook (2003) found recommendations for students in pre-referral teams included instructional modifications (96%), behavioral management procedures (92%), curricular modifications (80%), counseling (51%), placement review or change (37%), parent training (25%), and “other,” such as tutoring and summer school programming (27%). Truscott, Cohen, Sams, Sanborn, and Frank (2005), in their study of Pre-referral Intervention Teams (PITs), found the most common goals of teams were additional services, testing, or modest classroom interventions, but rarely significant instructional modifications. They also reported that the most commonly recommended interventions were to reduce the volume of the assignment, provide one-on-one instruction, change the student’s curriculum, change the student’s seat, provide individual/group counseling, enroll the student in a remedial program, or provide a peer tutor (Truscott et al., 2005). In an earlier study of pre-referral intervention teams, Slonski-Fowler and Truscott (2004) found that teams recommended a small number of generic interventions or services outside the classroom. Although duration and intensity of the intervention varied in these studies, additions and modifications to the intervention were common.

In the school system in which this study was conducted, many recommendations are made for students struggling with reading but who are not identified as requiring special education services. Students come to the attention of teams through universal screening (e.g., DIBELS, Good & Kaminski, 2002; STAR Reading, Advantage Learning Systems, 1997) or by referral from the general education teacher. After a review of student scores by the problem-solving team, students are either referred to a published problem-solving model, called *Instructional Consultation Team* (ICT; Rosenfield &

Gravois, 2013), or placed automatically in a supplemental curriculum. Some of the common reading and language interventions used for students in this phase (considered Tier II in the RtI model) are indicated in Table 4.1. Less information, however, is known about the recommendations and interventions used for students already receiving special education services.

Table 4.1

Interventions Used

Early Elementary Interventions	Later Elementary Interventions
Road to the Code (Blachman, Ball, Black, & Tangle 2000)	Read Naturally (Engelmann, Hanner, & Johnson, 1999d)
Language for Learning (Engelmann, Hanner, & Johnson, 1999c)	Corrective Reading (Engelmann, Hanner, & Johnson, 1999a)
Read Naturally (Engelmann, Hanner, & Johnson, 1999d)	Word Partners I & II (Vadasy, 2004)
Phonics for Reading (Archer, Flood, Lapp, & Lungren, 2011)	REWARDS (Vachon, Gleason, & Archer, 2000)
GATE for Phonics (Engelmann, Hanner, & Johnson, 1999b)	Language! (Greene, 2006)
Sound Partners (Vadasy, 2004)	
Reading Mastery (Engelmann, Silbert, & Hanner, 2008)	

Students with a diagnosed language-learning disability (LLD). Information for students with LLD is more difficult to discern than for students considered at risk (LLR) regarding the process by which recommendations are made. The Institute of Education

Sciences and the What Works Clearinghouse released guidelines regarding reading interventions for students in grades K-2 (Gersten et al., 2008). These guidelines indicate a lack of evidence for intervention recommendations for students receiving Tier III interventions (typically considered special education). This report indicates recommendations for this group of students comes from expert opinion or related findings. That said, the panel writing the report did include the following recommendations: concentrated instruction on targeted skills, adjusted lesson pace, multiple instructional sessions, one-on-one instruction, and individualized planning using team input. Although not expressed directly, these five recommendations seem to indicate either an addition or modification to the intervention the student currently receives.

Students who are typically learning (TL). Students with typically developing reading skills are rarely brought to the attention of problem-solving teams. General education teachers may meet with other staff if a behavioral concern is present, or if the student needs an additional challenge in the way of gifted/talented programming. General education teachers do routinely meet with parents at least once per year to discuss academic progress (Belway, Durán, & Spielberg, 2013; Michigan Legislative Website, 2009). Recommendations for students in this group are not likely to include major changes in interventions, as their reading development is on schedule according to state and federal guidelines. They were included in this study as a comparison group.

Attendance of Groups of Professionals in Making Recommendations

Recommendations for students may vary based on professional role. An assumption underlying team processes is that one person is not likely to have all the knowledge necessary to address all individual student difficulty (e.g., Benazzi, Horner, & Good, 2006; Moore et al., 1989). In addition to general education teachers, administrators (including principals, special education administrators, and vice principals), specialists (including special education teachers and speech-language pathologists), and general education consultants (including reading specialists, math specialists, intervention specialists, and social workers) are primary categories of roles that may vary in the recommendations they make.

General education teachers. Wanzek and Cavanaugh (2012) found a majority of teachers (83%) were *extremely* or *somewhat informed* about student's progress in interventions. They also reported that 73% of teachers self-reported as the provider of reading interventions, 34% indicated the reading specialist, and 42% a paraprofessional or instructional assistant. Study I of this dissertation indicated that general education teacher's frequency of involvement in meetings less for students identified with a disability than for those struggling but unidentified. In a study of three elementary schools who implemented problem-solving teams, Shapiro et al. (2011) found that general education teachers made recommendations that increased outside interventions for students, regardless of nature of the student need. When working in dyads with another professional, however, teachers shifted their decision-making processes in favor of increased use of systematic and standardized data. This indicates the other members of

the problem-solving team may influence the recommendations general education teachers make.

Administrators. Principals and other general education administrators may be valuable in ensuring the participation of members who bring good knowledge of the student, setting, and theory to meetings about struggling students (Benazzi et al., 2006), regardless of the status of the student. As found by Rafoth and Foriska (2006) in their literature review of collaborative problem-solving teams, gaps exist in understanding specific variables that contribute to team practices, including what specific administrative support mechanisms should be examined. In a survey of 121 intervention teams from Illinois, Michigan, and Wisconsin, a majority of team members identified administrators as the group that contributes most to team effectiveness (Bahr et al., 1999). Yet, in their research review of problem-solving teams, Burns, Vanderwood and Ruby (2005) were unable to find data examining the relationship between principal involvement and desired student or system outcome. Further understanding of the presence of administrators at meetings where different types of recommendations are made for students of different status types is needed.

Specialists. Specialists who can deliver instruction to students with IEPs include special education teachers and speech-language pathologists. Specialists have a variety of professional training and bring varied disciplinary backgrounds to interdisciplinary communication about struggling students. Due to the nature of their positions and their involvement with particular student groups, the recommendations made by specialists for students may differ based on the student status.

In addition to the special education teacher's involvement on teams for students receiving special education services as required (IDEA, 2004), special educators may also be highly involved with students considered at risk, especially after the changes made with the 2004 reauthorization of IDEA, and the recommendations they make may be influential. For example, in a meta-analysis of 72 articles, 9 of which met inclusion criteria, Burns and Symington (2002) found that having special education teachers on pre-referral problem-solving teams helped improve student outcomes. Although details of the recommendations they made were not available, these students were less likely to be referred for special education testing. Variation in what recommendations they make for students of different status could not be found in prior literature.

Speech-language pathologists' role in early reading intervention relates to such elements as oral language and phonological skill development, including instruction in relationships between phonology and orthography (called phonics). In a study comparing the phonemic awareness of SLPs, reading teachers, special education teachers, and kindergarten and 1st grade general education teachers, Spencer, Schuele, Guillot, and Lee (2011) found that SLPs were more proficient than other educators at the higher level phonic skills—segmenting words that had complex relationships between speech and the text. Professionals in this role may make recommendations based on how the student's academic needs are related to speech, language, and communication (American Speech-Language-Hearing Association, 2010).

General education consultants. General education consultants include roles such as reading specialists, math specialists, and social workers. Recommendations made by these and other disciplines are difficult to determine, as cross-disciplinary studies are

rare. Helf and Cooke (2011) reviewed the roles of reading specialists in their description of problem-solving teams. They noted the presence of reading specialists in elementary schools has increased, and their role has been emphasized in the literature as improving efforts for prevention and intervention of reading problems. Elliott and Sheridan (1992) found assessment professionals, such as school psychologists and special educators, contributed the most to future recommendations, whereas general education teachers and parents contributed little. Study II of this dissertation revealed that there were variations in professional attendance based on student status. Common professionals attending communication events included general education teachers, special education teachers, and parents. Reported attendance was higher for the LLD group than the LLR group for special education teachers, other general education teachers (beyond the responding teacher) and principals, but lower for reading specialists, parents, and school psychologists.

Summary

Communication between interdisciplinary professionals (including parents) is common as a way to begin, continue, and promote problem-solving in order to address academic difficulties for students at-risk of reading problems (e.g., Kovaleski & Glew, 2006; Williamson & McLeskey, 2011). Burns, Vanderwood, and Ruby (2005) suggested that future research closely examine recommendations made at team communication events in relationship to the variables that might influence student achievement. Despite the variety of problem-solving team meetings, there has been a “chronic lack of research

in this field on contextual factors that inform and influence” the decisions made (Malone & Gallagher, 2010, p. 330).

To evaluate the use of problem solving in schools, interdisciplinary professionals need to understand better what communication happens in schools and how these communication events relate to what recommendations are made for students. Based on present literature, the relationships between communication event variables and recommendations are unclear. Furthermore, recommendations may vary for students of different status. As noted by Shapiro and colleagues (2011), gaining a broader understanding of the recommendations and decisions made for students is critical in evaluating the impact of interventions.

Research Questions

1. What are the differences in recommendations (i.e., *addition of intervention, subtracting of intervention, modification of intervention, maintenance of intervention, gather additional data, conduct another meeting, or no recommendation/need for further discussion*) made for students of three categories of academic status (TL, LLR, LLD) in student-focused communication events reported by general education teachers for occurring biweekly over a 5-month period (December to May)?
2. Is there a relationship between the attendance (i.e., *specialists, administrators, and general education consultants*) and recommendations made at that event (i.e., *addition/modification of intervention, and other*)?

Methods

This study was designed to contribute information about lesser-studied aspects of team problem-solving processes, specifically the recommendations that are made at communication events held regarding students of different educational status and associations with professionals who attend the events. Data were collected prospectively by gathering biweekly reports over the five-month period (from December 1–May 30, 2013) from 29 general education teachers in first through fifth grade classrooms in a school district in a semi-rural area of a Midwestern state about students within their classrooms who met criteria for one of three status groups (TL, LLR, and LLD). By carefully examining the recommendations made at each communication event held between two or more individuals focused on individual students, the goal was to contribute to a more complete understanding of the nature of team communication. Further details about the school setting, teacher and student participants, and methods used in gathering these data were reported in Study II (Chapter III of this dissertation; Appendices C and D).

Participants

Teacher participants. Participants acting as reporters of communication events included 26 general education teachers distributed across the following grade levels: 1st grade ($n = 2$), 2nd grade ($n = 3$), 3rd grade ($n = 8$), 4th grade ($n = 6$) and 5th grade ($n = 7$). All were members of the professional staff at a single school district in a Midwestern state. Participants were told the study would involve completing bi-weekly online reporting about communication events held.

Student participants. Human Studies Institutional Review Board approval was gained before inviting student participation in the study. The invitation process involved sending descriptions of the research and parental permission forms home to parents or guardians of potential student participants. The eligible pool of student participants were students enrolled in the classrooms of the general education teachers who agreed to take part in the study and who met inclusion/exclusion criteria for one of the three academic status groups defined for this study.

Students in the TL group ($n = 45$) were considered as having typically developing learning skills if they had never been referred for special testing in the area of speech-language or literacy skills and if they received no additional interventions (e.g., tier 2 RtI services) and no additional services during the school day. Students in the LLR group ($n = 32$) met criteria as having literacy-learning risk if they had shown difficulty with learning to read and had received at least one reading intervention outside the classroom, but had not been found eligible for special education on the basis of having a language impairment or learning disability (or any other special education category). Students in the LLD group ($n = 23$) met criteria as having a language-learning disability if they received special education services for either a diagnosed learning disability on the basis of reading, speech-language impairment on the basis of language, or both. The sample comprised 101 students for whom parental permission and child assent were obtained, with one student later dropping out of the study, for a final total of 100 student participants. Students varied in grade level: 1st grade ($n = 5$), 2nd grade ($n = 10$), 3rd grade ($n = 28$), 4th grade ($n = 24$) and 5th grade ($n = 33$). More information regarding student participants can be found in Study II.

Teacher Reporting Tool

The data collection tool for this research was an experimenter-designed bi-weekly (for 22 weeks, or 11 reporting periods) online reporting form. The data collection tool was designed to gather information about the key study variables of communication event type, topic, and attendance and how these may or may not relate to the recommendations made at these events. Attendance was collected through responses to the question “Who attended this meeting/contact?” Response choices included the three reporter categories (i.e., *general education teacher*, *special education teacher*, or *speech-language therapist*), as well as options to select as many of the following 14 roles as applied: *other general education teacher(s)*, *special education teacher(s)*, *speech-language therapist(s)*, *reading specialist*, *math specialist*, *social worker*, *behavior interventionist*, *director of teaching and learning (vice principal)*, *principal*, *special education administrator*, *psychologist*, *parent(s)*, *private tutor*, *outside agency*, or *other*. A second variable, labeled *attendance* was collected through the answer to the question, “What was the primary recommendation made at this meeting/contact?” General education teacher participants were instructed to select one recommendation from a list of selections. Response choices included *addition of intervention*, *subtracting of intervention*, *modification of intervention*, *maintenance of intervention*, *gather additional data*, *conduct another meeting*, or *no recommendation/need for further discussion*. Participants were instructed to use the option *conduct another meeting* when those present at the communication event determined they needed additional time to consider options, no decision was made, or those present determined additional discussion was necessary at a later time.

Analysis Method

The variations in the seven types recommendations made for students in three different status groups were examined first using descriptive statistics. Statistical differences were explored using ANOVA to determine if particular types of recommendations were more likely to be reported for one of the three status groups. Loglinear analysis was used to investigate whether the recommendation of *addition or modification of intervention* was statistically more likely to be reported in association with particular types of professionals attending the communication event.

Because of low frequencies in some cells, some categories of variables were collapsed for analysis. For attendance, the roles of special education teacher and speech-language pathologist were coded as *specialists*; principals, vice principals, and special education administrators were coded as *administrators*; reading specialists, math specialists, intervention specialists, and social workers as *general education consultants*. For recommendations, two categories were formed. The first, *addition or modification of intervention*, contained those two options. The second recommendation category was labeled *no change/reduction*. It contained the options of *subtraction, maintenance, gathering additional data, conduct another meeting, or no recommendation*. Subtraction of services was included here because selection of this category implies the professional perceives the student is experiencing some level of academic success. If respondents selected more than one option for recommendation for any communication event, preference was given for coding the single recommendation in the following order: *addition, subtraction, modification, maintenance, gather additional data, conduct another meeting, and no recommendation/need for further discussion*. Additionally,

communication event reports were collected over the 22 weeks, incorporating all reports that indicated a communication event had been held. The analysis then focused on the recommendations and attendance at each event when communication occurred. An alpha level of .05 was set. IBM SPSS Statistics, Version 20.0 (SPSS, Inc.) was used to conduct most analyses; SAS/STAT Software, Version 9.4 was used to conduct the loglinear analysis.

Results

The following sections report the results of analyses conducted to address the two research questions related to communication event recommendations and attendance for students in three different status groups—TL, LLR, and LLD. First, results are reported for the research question related to communication event recommendations by status group. Then, results are reported related to associations of recommendations with attendance and status group. In both sections, results are based on reports from general education teachers.

Recommendations by Status Group

The first research question asked: What are the differences in recommendations made for students of three categories of academic status (TL, LLR, LLD) in student-focused communication events reported by general education teachers biweekly over a 5-month period? Table 4.2 presents descriptive results for students in the three categories of academic status (TL, LLR, LLD) for each of the original categories of *addition of intervention, subtracting of intervention, modification of intervention, maintenance of*

intervention, gather additional data, conduct another meeting, or no recommendation/need for further discussion. These results are reported as frequency to two decimal places, pooled across all reporting periods (11 periods, 22 weeks), and divided by the number of reports submitted where a communication event occurred. Examination of Table 4.2 reveals sparse data in many cells. Therefore, the recommendations were collapsed in the following way: *addition of intervention* and *modification of intervention* as one category (*addition/modification of intervention*), while the remaining recommendations (e.g., *subtraction, maintenance, gathering additional data, conduct another meeting, and no recommendation*) were collapsed as another category labeled *no change/reduction of intervention*. The variable that includes these two categories was labeled *recommendation* for the remaining analyses.

Table 4.2

Mean Communication Event Recommendations per Two-Week Reporting Period Within Each of the Three Status Groups

	Mean Recommendations			Total
	Student Status			
	TL	LLR	LLD	
Addition	.09	.14	.16	.13
Subtraction	.01	.02	.02	.02
Modification	.05	.12	.16	.11
Maintenance	.11	.21	.31	.21
Gathering additional data	.12	.19	.07	.14
Conduct another meeting	.05	.04	.01	.03
No recommendation	.57	.27	.27	.35

Further analysis indicated differences in recommendations by student status groups. ANOVA was used for the analysis of the collapsed recommendations, with *recommendation* serving as the dependent variable, and *student status* as the independent variable. Although the assumption of normality was violated, the ANOVA is a robust test against this assumption (Lund & Lund, 2013). To address the violation of homogeneity of variance, the Welch test was used. Results indicated a statistically significant difference between status groups $F(2, 301.4) = 8.64, p < .0001$. Post hoc analysis revealed significantly higher frequency of the *addition/modification of intervention* recommendation made per two-week period for the LLD ($p = .001$) and LLR ($p = .01$) groups compared with the TL group.

Professional Attendance and Recommendations by Status Group

The second research question asked: Is there a relationship between the attendance for the three professional categories (i.e., *specialists*, *administrators*, and *general education consultants*) and two categories of recommendations made at that event (i.e., *addition/modification of intervention*, and *no change/reduction of intervention*)? Table 4.3 presents descriptive results for this analysis, as pooled across the 22 weeks (11 reporting periods). Attendance was collapsed into three variables: *administrators* (including special education administrators, principals, and vice principals); *specialists* (including special education teachers and speech-language pathologists); and *general education consultants* (including math specialists, reading specialists, intervention specialists, and social workers). There appeared to be differences in all attendance variables for different student status.

Table 4.3

Frequency of Communication Event Attendance by Recommendations for Three Status Groups Over a 22-Week Reporting Period

Attendance	n	Addition/Modification		Little/No Change	
		Freq.	%	Freq.	%
TL	24				
Administrators		0	0	4	16.7
Specialists		2	8.3	7	6.0
Gen. Ed. Consultants		2	8.3	9	37.5
LLR	111				
Administrators		11	9.9	19	17.1
Specialists		14	12.6	32	28.8
Gen. Ed. Consultants		7	6.3	28	25.2
Total					
LLD	116				
Administrators		9	7.8	7	6.0
Specialists		28	24.1	64	55.2
Gen. Ed. Consultants		2	1.7	6	5.2
Total					

For all communication events reported for students in the TL group, 4 of these events (16.7% of the total of 24) were coded by the general education teacher as a recommendation of *addition/modification of intervention*. Of these, 0 (0%) had an administrator present, 2 (8.3%) had a specialist present, and 2 (8.3%) had a general education consultant present. Additionally, 20 events reported for the TL students (83.3% of the total of 24 events) had *no change/reduction of intervention* recommended, and of these, 4 (16.7%) had an administrator present, 7 (29.2%) had a specialist present, and 9 (37.5%) had a general education consultant present.

For all communication events reported for students in the LLR group, 32 of these events (28.8% of the total 111) were coded by the general education teacher as a recommendation of *addition/modification of intervention*. Of these, 11 (9.9%) had an administrator present, 14 (12.6%) had a specialist present, and 7 (6.3%) had a general education consultant present. Additionally, 79 events (71.2% of the 111 total events reported) had *no change/reduction of intervention* recommended, and of these, 19 (17.1%) had an administrator present, 32 (28.8%) had a specialist present, and 28 (25.2%) had a general education consultant present.

For all communication events reported for students in the LLD group, 39 events (33.6% of the total of 116 events reported) were coded by the general education teacher as a recommendation of *addition/modification of intervention*. Of these, 9 (7.8%) had an administrator present, 28 (24.1%) had a specialist present, and 2 (1.7%) had a general education consultant present. Additionally, 77 events (66.4% of the total 116 events) had *no change/reduction of intervention* recommended, and of these, 7 (6.0%) had an administrator present, 64 (55.2%) had a specialist present, and 6 (5.2%) had a general education consultant present.

Analysis of the potential interactions between recommendations, attendance, and three status groups of interest. A three-way categorical analysis was performed to examine associations between the recommendation type (*addition/modification, no change/reduction*), with particular professional role attendance (*administrator, specialist, general education consultant*) and student status (*TL, LLR, LLD*). Using SAS (2013), a 3-way loglinear analysis was estimated with all main effects and 2-way interactions. The 3-way interaction was used to test the overall model, likelihood ratio = 1.18, $p = 0.7584$

indicating a good fit of the model to the data. The analysis summary indicated statistically significant effects for all three main effects; Wald χ^2 (2, $N = 251$) = 22.69 for status, Wald χ^2 (1, $N = 251$) = 15.81 for modification, and Wald χ^2 (2, $N = 251$) = 19.10 for attendance, all p values < 0.0001, and a statistically significant 2-way interaction between status and attendance Wald χ^2 (4, $N = 251$) = 38.06, $p < 0.0001$. Although it did not reach conventional levels of statistical significance, the attendance-by-modification 2-way interaction approached statistical significance Wald χ^2 (2, $N = 251$) = 5.32, $p < 0.0698$. Due to the exploratory nature of this study and lack of prior studies related to attendance and recommendations at communication events, reviewing both 2-way interactions was completed. Although this may lead to an inflated Type I error, a reduction in the overall Type II error is warranted for the purposes of discovery.

Post hoc analysis of the status by attendance interaction focused on who was in attendance within each status group. With the TL and LLR groups, no differences in attendance frequency were noted among meeting participants coded as *administrators*, *specialists* and *general education consultants*, $p = 0.6907$, and $p = 0.1670$, respectively. However, for the status group LLD, there was a statistically significant difference in the frequency of attendees ($p < 0.0001$). *Specialists* were present significantly more often than either of the other two groups (both $p < 0.0001$), which did not differ from each other ($p = 0.0891$).

Discussion

The purpose of this study was to examine some of the characteristics of communication events that occur for students of three different status groups (TL, LLR,

and LLD). Teachers in one school district in a Midwestern state were asked to report bi-weekly for 22 weeks (for 11 reporting periods) about specific students that met the criteria of these three status groups. The findings provide insight into the communication that occurs in interdisciplinary teams, the recommendations that occur at these events, and the professionals who attend.

Recommendations Made for Students in Three Different Status Groups

Statistically significant differences were found in the two major categories of recommendations made for students among the status groups of TL, LLR, or LLD. Those differences include confirmation that the LLR and LLD groups had a higher frequency of events in which an addition or modification of intervention was recommended than the TL group. Consistent with prior literature, students who are at risk or already identified as needing special education services are more likely to have meetings where RtI processes are implemented (Buck et al., 2003; National Center for Learning Disabilities, 2013). Students in the LLR and LLD groups, by definition would be struggling academically; therefore, professionals would naturally be more likely to recommend an addition or modification of an intervention for students in that group. In contrast, there would be no reason to change academic programming for students developing skills typically (TL group). Moreover, students struggling with academic content so much that specialized services are deemed necessary might need continued adjustments in interventions to develop skills. This may be considered a positive indicator of on-going individualized problem-solving (NCRI, 2010).

The findings of differences in recommendations by group status in this prospective study are consistent with prior literature. That is, this study found that recommendations of additions or modifications of interventions were more likely to occur for students in the LLR and LLD groups. Separate prior retrospective studies of intervention teams indicate that recommendations for changes are made for students in the LLR group at team meetings. Wanzek and Cavanaugh (2012) found that recommendations made for students considered at-risk for academic difficulty often resulted in a change in intervention, particularly structural strategies (i.e., preferential seating for the student) or instructional strategies (i.e., small group instruction). Slonski-Fowler and Truscott (2004) found that for students at-risk of academic failure, 74% of teachers reported students to be receiving an intervention beyond the scope of general instruction. The current study adds information about ongoing changes in these interventions.

Attendance and Recommendations for Three Different Status Groups

Roles investigated in this study were in the three main categories of administrators, specialists, and general education consultants. Collapsing the attendees in this way made it possible to compare attendance for students of different educational status and associated with the two main categories of recommendations. Descriptively, administrators were present at events for the LLR (9.9%) and LLD (7.8%) groups, but not present at the rare events recommending change for the TL (0% of 4 events) group. In those meetings, administrators were in attendance at close to a third (34%) of the communication events for students in the LLD group and a quarter (23%) of the events

for students in the LLR group where a change was recommended. This is an important descriptor, given that prior research has noted the importance of administrator presence at problem-solving meetings (Bahr et al., 1999; Benazzi et al., 2006). It also is important to note that not all communication events where a change was recommended had an administrator present, but that it was not possible in this study design to know the specific type of recommendation made. Therefore, a “change in intervention” could have been a major change, such as an addition of small group instruction, or a minor change, such as an accommodation of extra time on assignments.

The attendance of specialists is common at meetings with students with identified disabilities. Not surprisingly, specialists (special education teachers and speech-language pathologists) were more frequently in attendance at meetings where a change was recommended for students with LLD (24.1%) than for the LLR (12.6%) and TL (8.3%) groups. Furthermore, for the LLD group, one of the events could have been the mandatory annual IEP meeting. More frequent involvement of specialists in events for students in the LLD and LLR groups is promising, given the study by Burns and Symington (2002) suggesting special education teachers on teams may help improve student outcomes.

Strengths and Limitations

Among the key strengths of this study are the ability to make direct comparison of the recommendations for three different student status groups and the use of prospective data gathering techniques. Compared to prior retrospective studies, the prospective nature of the study allowed for the collection of more precise data as teachers reported

communication events frequently. The teachers were not being asked to reflect retrospectively on what they did generally but were reporting on specific events held within the prior two weeks.

Collapsing variables to ensure sufficient cell sizes may have been considered a limitation; however, ensuring the focus remained on recommendations that involved a definite change in a student's intervention (e.g., *addition* or *modification*) allowed for analysis directed toward the key variables of interest in later analysis (e.g., attendance and recommendations). The recommendations of *addition* and *modification* imply the student is struggling academically and needs additional help, whereas the other recommendations indicate either the student is making good progress (e.g., *subtraction*), the intervention should continue (e.g., *maintenance*), or more information is needed (e.g., *gathering additional data*, *conduct another meeting*, and *no recommendation*). Knowing about the precise nature of the recommendations would have added specificity, but it would have limited the ability to make comparisons across student status groups.

There was no way in this study design to determine the exact nature of the recommendations (e.g., which particular interventions were discussed) or whether they were actually implemented by the professionals involved, or whether they resulted in improvements in the student's functioning. Further research is needed to shed more light on these aspects of recommendations, perhaps through longitudinal case studies and individual case studies. If these recommendations are followed, turning a recommendation into an action, future analysis could show changes made to the educational programming of the LLD and LLR groups. Future research also may highlight to what degree and with what frequency recommended changes actually occur.

These are preliminary findings, and caution should be taken with the small cell sizes, even with the collapsed variables. With data collected from a single school district, generalizability is limited. With a larger data set, gathered in different schools and geographic regions, more information may be gathered about each recommendation and each attendance role. Nevertheless, this study can inform and act as a launching point for further research. Further research is needed regarding the type of meetings and events that are held for students in different status groups. Investigation into the reading achievement and ability of these students within the groups would also be useful in understanding teams with more precision. This study only looked at reported recommendations, and future studies may focus on details of the recommendations themselves—the type, length, intensity, and student success.

Conclusions

This study provides evidence that recommendations vary for students in TL, LLR, and LLD status groups, and that professionals who attend communication events are associated with types of recommendations made. This study indicates that recommendations of additions or modifications of interventions are more likely to occur for students in the LLR and LLD groups than the TL group. Findings also show the attendance of specialists, which included special education teachers and speech-language pathologists in this study, is more frequent at meetings where a change is recommended for students in the LLD group than for the LLR and TL group. Understanding the relationships between recommendations, attendance, and status is important as teams seek to make an educational impact with students who struggle with reading.

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CHAPTER 5

CONCLUSIONS

This three-paper dissertation examined problem-solving teams in elementary schools for students of three different status groups related to their progress in learning to read: students with no identified literacy learning risks who have typical learning (TL) development, students with language-learning risks (LLR), and students with identified language-learning disabilities (LLD). Study I focused on teams throughout Michigan, while Studies II and III focused on a single elementary school in the same state.

Study I was a pilot study using a survey designed to examine the perceptions of problem-solving teams from nine different roles—special education teacher, special education administrator, psychologist, principal, social worker, reading specialist, speech-language pathologist, and general education teacher. Participants were asked to respond to questions about meetings held for one hypothetical student who had been identified as having a learning disability and another hypothetical student who had not.

Study II expanded those findings with a prospective study in which teachers were asked to report biweekly on communication events held for actual students in the three status groups: TL, LLR, and LLD. This study focused on one particular school system for in-depth study of problem-solving team communication focused on meeting frequency, type, and attendance.

Study III used data from the same teacher reports as Study II, focusing on the recommendations made at communication events from the perspective of the general

education teacher. This final chapter discusses the integrated findings from these studies, then implications for practice for team problem solving relating to student status.

Findings Across Three Studies

The findings from this series of studies highlight the similarities and differences of problem-solving team practice of students in different status groups. For students struggling with reading, approaches and practices used to address their needs is important to understand, as even though an estimated 96% of students develop reading skills on schedule (U.S. Department of Education, 2009), at least 4% do not. The International Dyslexia Association (2010) estimates even higher rates of as many as 15-20% of students with difficulty in reading or language processing such that reading is below proficient. How problem-solving teams operate for these students and how their status might relate is of primary interest.

The first finding common among the studies involves meeting frequency. Collectively these studies show there are more problem-solving meetings for students considered at-risk than for those already diagnosed with a learning disability. In Study I, the collapsed respondents reported more meetings pre-identification than post ($Mdn = 4$, $Mdn = 2$, respectively). Study II reported more communication events for students at-risk and with an identified disability than those with typical learning. The difference between communication events for the LLR group (mean = 0.78) and the LLD group (mean = 0.56) approached significance at 0.056. This supports the conclusion that status groups differ in communication event frequency. Some literature reflects this as well, with parent-teacher conferences the only required meeting for students with TL (Michigan

Legislative Website, 2009), multiple meetings encouraged but not required for LLR (Buck, Polloway, Smith-Thomas, & Cook, 2003; Wright, 2010), and only one additionally required meeting (beyond parent-teacher conferences) for LLD (IDEA, 2004).

This dissertation research emphasizes the need for professionals and school systems to carefully examine their practices with students in different status groups to determine if the frequency of meetings is appropriate, as some literature suggests teams can positively influence student outcomes better than professionals working in isolation (e.g., Goddard, Goddard, & Tschannen-Moran, 2007; Pool, Carter, & Johnson, 2013). If this is the case, schools may find ways to encourage team problem-solving meetings for all students who are struggling readers, regardless of whether they are considered at-risk or have a diagnosed disability.

Also included in this series of dissertation studies is the finding that professional attendance at communication events varies. Study I indicated principals, general education teachers, and reading specialists with higher levels of participation prior to special education identification than after. Special education teachers were indicated higher post identification than pre. Study II produced similar results, with general education specialists (which included reading specialists) higher for LLR than LLD, and specialists (which included special education teachers) marked higher for LLD than LLR. Limited studies directly comparing these groups exist, although looking at student status groups in isolation does reveal similarities to the existing literature. For example, Truscott, Cohen, Sams, Sanborn, and Frank (2005) suggested administrator involvement

high for students at-risk, while IDEA (2004) mandates specialist presence after identification and this series of studies showed similar attendance of these professionals.

The preliminary findings in individual studies within this series lend themselves to further research questions. Study II looked at differences between informal and formal communication events, with informal communication being more frequent. Future studies may investigate whether similar outcomes occur regardless of the meeting type. If that were the case, these results would tentatively support flexibility in meeting structure. Furthermore, Study III looked at the possibility of particular team members present at communication events/meetings and how that may increase the likelihood of particular recommendations made. Future studies that fully examine the relationship between variables such as attendance with types of recommendations could certainly impact the structure of problem-solving teams, and encourage school systems to form teams that included particular roles.

Limitations Across Three Studies

Some common limitations of this series of studies exist. First, since the participants for Study I was drawn from the state of Michigan, and Studies II and III drawn from a school within Michigan, the sample size was limited. Although this affects the generalizability of the studies, a more in-depth analysis could be conducted by focusing on one particular area (Study I) and in one particular school (Studies II and III). Future studies that investigate problem-solving teams could use this pilot research and expand it, drawing from a larger pool of professionals in elementary schools. The survey (Study I) and reporting form (Studies II and III) were experimenter-designed; however,

each was tested and revised in multiple focus groups consisting of special education teachers, administrators, general education teachers, speech-language therapists, and social workers. These focus groups led to multiple design alterations in the study before used. One positive result of this rigor was a design that led to recording as many possible communication events as possible, although a possibility remains that respondents may have overlooked some events. Future in-depth studies may consider ways in which to capture each communication event as it occurs, and with a larger data set, comparisons between general education teacher reports and those of other team members would lend to further important descriptions of team problem-solving. Another limitation across the three studies is the potential personal bias of the participants, who may have been inclined to report in a particular way, given influences of social desirability.

Conclusions

In this series of three dissertation studies, differences in status groups related to communication event/meeting frequency, meeting type, attendance, and recommendations were explored. Relationships between these composite variables were also investigated. Studies I and II found meeting frequency to be higher for students considered at-risk than for students considered either typical learners, or those with identified learning disabilities. Study II showed more informal communication events (e.g., chance meeting in the hallway) occurred than formal events (e.g., specially scheduled meeting). Study II also showed that attendance varied by status group, with specialists often present for communication events for students in the LLD group and general education consultants often present at events for the LLR group. Preliminary

indications of varying attendance in members of the problem-solving team for the three status groups may impact the recommendations general education teachers make. Continuing to have interdisciplinary interaction may be preferred to ensure appropriate problem solving. Finally, Study III showed reports from general education teachers indicate changes in recommendation are more likely to occur for the LLR and LLD status groups than the TL status group, although the reasons these changes were made were beyond the scope of this study. However, this may be considered yet another positive indicator of on-going individualized problem solving, as students struggling with academic content need continued adjustments in interventions to develop skills. This work provides insight into the complexity of problem-solving team communication, and the differences among student status.

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Appendix A

**Human Subjects Institutional Review Board
Approval Letters**

WESTERN MICHIGAN UNIVERSITY



Human Subjects Institutional Review Board

Date: January 8, 2010

To: Nickola Nelson, Principal Investigator
Kathleen Kroll, Student Investigator

From: Amy Naugle, Ph.D., Chair

A handwritten signature in cursive script that reads "Amy Naugle".

Re: HSIRB Project Number: 10-01-07

This letter will serve as confirmation that your research project titled "Elementary Team Perceptions" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: January 8, 2011

Walwood Hall, Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276

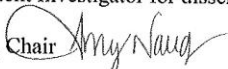
WESTERN MICHIGAN UNIVERSITY



Human Subjects Institutional Review Board

Date: November 1, 2012

To: Nickola Nelson, Principal Investigator
Michele Anderson, Co-Principal Investigator
Brooks Applegate, Co-Principal Investigator
Kathleen Kroll, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair 

Re: HSIRB Project Number 10-08-15

This letter will serve as confirmation that the changes to your research project titled "TILLS Validation Research" requested in your memo, received October 30, 2012 (to modify longitudinal Study 4 arm of project; include biweekly data collection from teachers; add online communication event reporting form and modify consent document to reflect these changes for the Mattawan Consolidated school site) have been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: August 27, 2013

Appendix B

Study I: Survey

Thank you for your participation in this brief survey. Your input will be used to better understand the ways in which teams operate. This research is focused on ways in which the academic achievement of children can be best attained.

1. My primary role is (check one):

- principal
- general education teacher
- reading specialist/literacy coach
- psychologist
- special education administrator
- special education teacher
- speech-language pathologist
- school social worker
- other _____

2. Do you work with students (or consult with teachers who work with students) in grades K - 5?

- yes no *if no, exit

3. How many years have you been employed with this district and/or ISD?
(numerical enter only)

4. How long have you been working in education?
(numerical enter only)

5. What size is your school district?

- Class A (987 or more enrolled in High School)
- Class B (488-986 enrolled in High School)
- Class C (224-487 enrolled in High School)
- Class D (223 or fewer enrolled in High School)
- Not sure

The following questions relate to your personal experiences with teams regarding students who are struggling in general education in the area of reading, but have **not yet been identified for special education services**. Please respond with your perception of what is currently occurring in your building.

6. Consider a one child (an "average" case) in your building who is suspected of having a reading problem. Who typically participates in planned meetings about that child?

- | | | | | | |
|---------------------------|--------------------------------|---------------------------------|------------------------------------|--------------------------------|---------------------------------|
| principal | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| general ed. teacher | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| reading specialist | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| psychologist | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| special ed. administrator | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| special ed. teacher | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| speech-language therapist | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| social worker | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |
| parent | <input type="checkbox"/> never | <input type="checkbox"/> rarely | <input type="checkbox"/> sometimes | <input type="checkbox"/> often | <input type="checkbox"/> always |

7. How many planned meetings about a particular child with a reading problem are there throughout the course of the school year?

(drop down box for continuous number 0-99, per year)

8. From your perspective, what is the level of responsibility for the reading progress of a child with a reading problem in general education?

principal	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
gen. ed. teacher	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
reading specialist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
psychologist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
special ed. admin.	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
special ed. teacher	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
speech-language therapist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
social worker	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
parent	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
other	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none

The following questions relate to your personal experiences with teams regarding students who are struggling in general education in the area of reading, and who are **receiving special education services**. Please respond with your perception of what is currently occurring in your building.

9. Consider a one child (an “average” case) in your building who has a reading problem and is receiving special education services. Who typically participates in planned meetings about that child?

principal	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
general ed. teacher	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
reading specialist	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
psychologist	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
special ed. administrator	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
special ed. teacher	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
speech-language therapist	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
social worker	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always
parent	<input type="checkbox"/> never	<input type="checkbox"/> rarely	<input type="checkbox"/> sometimes	<input type="checkbox"/> often	<input type="checkbox"/> always

10. How many planned meetings about a student who receives special education services are there throughout the course of the school year?

(drop down box for continuous number 0-99, per year)

11. From your perspective, what is the level of responsibility for the reading progress of a child with a reading problem in special education?

principal	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
gen. ed. teacher	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
reading specialist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
psychologist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
special ed. admin.	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
special ed. teacher	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
speech-language therapist	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
social worker	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
parent	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none
other	<input type="checkbox"/> primary	<input type="checkbox"/> secondary	<input type="checkbox"/> none

Appendix C

Studies II and III: Reporting Form

Test of Integrated Language & Literacy Skills (TILLS) Validation Research
Teacher Input Form

If you have questions regarding this electronic form, please contact Kathleen Kroll at
kathleen.kroll@wmich.edu

My research ID number:

Student ID Number

This is Communication Event Report Number 10 for dates 4/29/13 - 5/10/13. Please enter the number 10 in the box below:

This short reporting form will ask about the meetings and contacts you have had about this student. You will be asked to describe each communication event separately. The first question asks about the **FIRST** event you had in this two week time frame. An event is a meeting or contact that involved you and at least one other person.

Did you have a meeting or contact in the last two weeks where this student was discussed?

1. Yes
2. No

What type of meeting/contact was this? (#1) Please select one and provide comments as necessary.

1. chance meeting (hallway, teachers lounge, etc.)
2. written communication (email, handwritten note, etc.)
3. phone call
4. informal but prearranged meeting (family meeting, mentor meeting, etc.)
5. regularly scheduled meeting to discuss multiple students needs
6. formal, specially scheduled meeting with at least 2 people present (ICT or CST meeting, parent meeting, etc.)
7. Section 504 meeting
8. IEP meeting
9. other/details

Who attended this meeting/contact? (#1)Please check all that apply.

1. myself (I am a general education teacher)
2. myself (I am a special education teacher)
3. myself (I am a speech/language therapist)
4. general education teacher(s) (specify number below)
5. special education teacher(s) (specify number below)
6. speech/language therapist(s) (specify number below)
7. reading specialist
8. math specialist
9. social worker
10. behavior interventionist
11. director of teaching and learning (DTL)/Vice Principal
12. principal
13. special education administrator
14. psychologist
15. parent(s)
16. student
17. private tutor
18. outside agency (specify below)
19. other/details

--

What was the focus of this meeting/contact? (#1)Please select one primary topic and as many also discussed as apply.

	Primary Topic of Meeting	Also Discussed
lack of student progress	<input type="checkbox"/>	<input type="checkbox"/>
new problem identified (with student achievement)	<input type="checkbox"/>	<input type="checkbox"/>
good student progress	<input type="checkbox"/>	<input type="checkbox"/>
gathering student information/data gathering	<input type="checkbox"/>	<input type="checkbox"/>
new potential approach/plan	<input type="checkbox"/>	<input type="checkbox"/>
compliance (main purpose was to meet requirements of policy/law)	<input type="checkbox"/>	<input type="checkbox"/>
initial special education evaluation/planning	<input type="checkbox"/>	<input type="checkbox"/>
reduction of special education services	<input type="checkbox"/>	<input type="checkbox"/>
increase in special education services	<input type="checkbox"/>	<input type="checkbox"/>

What was the primary recommendation made at this meeting/contact? (#1) Please select one and provide comments as necessary.

1. addition of intervention
2. subtracting of intervention
3. modification of intervention
4. maintenance of intervention
5. gather additional data
6. conduct another meeting
7. no recommendation/need for further discussion
8. other/comments _____

Did you have another meeting/contact where this student was discussed?

1. Yes
2. No