ABSTRACT

Title of dissertation: E-MAIL COACHING OF INSTRUCTIONAL CONSULTATION SKILLS: THROUGH THE EYES OF COACHES AND CONSULTANT-TRAINEES

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The demand for consultation services is increasing due to educational reforms and changes in special education legal mandates, yet consultation practice and training have not kept pace with this demand. To address the need for quality consultation training, an in-service training and e-mail coaching course in Instructional Consultation (IC) was delivered to school-based practitioners. IC is a collaborative consultation model founded upon systematic problem solving, effective communication, and the use of curriculum-based assessment (CBA). The current study examined the themes of e-mail IC coaching, as well as the participants' perceptions of the quality, benefits, and viability of the e-mail IC coaching process.

Thirty consultant-trainees and four coaches who participated in the course completed feedback forms to indicate their perceptions of the e-mail IC coaching process. The coaches' e-mail coaching responses to the consultant-trainees were analyzed using grounded theory methods, and triangulated with the feedback form responses, to explore the themes of IC coaching by e-mail.

Three findings warrant specific mention. First, coaches typically provided directive responses, especially Information/Suggestion and Positive Feedback. Second, consultant-trainees rated the coaching experience positively and reported that their skills developed significantly in all areas. Third, coaching that involved specific Information/Suggestion followed by specific Positive Feedback was associated with consultant-trainees' perceptions that their skills improved. Other study results suggested: (1) the content areas most frequently addressed included CBA, Defining the Problem, and Collaboration; (2) the amount and type of coaching provided to individual consultant-trainees varied somewhat, due to coaches' perceptions of the consultant-trainees' needs; (3) approximately 80% of the consultant-trainees felt they were able to apply most IC skills following training, with the exceptions of CBA and Interventions; and (4) consultant-trainees and coaches rated e-mail as easy to access and comfortable to use for coaching.

The study results suggest that practitioners found e-mail IC coaching to be practical to use and beneficial for their development of consultation skills. While the above hypotheses must be validated, they help to inform the design of future e-mail IC coaching courses while additional research is conducted.

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by

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THE PROBLEM

Introduction

Consultation services have long been considered a core part of school psychologists' role (Reschly, 1993), but there is an increase in demand for such services (Sheridan, 1992). The rationale for the increased expectation for consultation services includes the greater accountability and effectiveness offered by these services and their fit with the ecological model of service delivery that is currently being espoused (Reschly & Ysseldyke, 1995; Sheridan, Welch, & Orme, 1996; Ysseldyke, Dawson, Lehr, Reschly, Reynolds, & Telzrow, 1997). However, the reality of consultation services has not kept pace with this vision, as school psychologists still spend a majority of their time in formal psycho-educational assessment activities and little time in consultation (Reschly & Wilson, 1995; Reschly, 2000). The reasons for this include special education funding mechanisms, inadequate time, and inadequate training, to name a few (Costenbader, Swartz, & Petrix, 1992). Because it is unlikely that current time allocations or legal mandates will change without an impetus, one promising route to increasing consultation service delivery appears to be training.

Research on effective training and professional development has helped to inform the design of consultation training programs. Empirical studies demonstrate that the combination of presentation, modeling, practice with feedback, and coaching is most effective for learning and applying new skills in practice (Joyce & Showers, 1980). Indeed, it is recognized that ongoing supervision or coaching is required to implement a skill as complex as consultation (Zins & Murphy, 1996). However, there is a dearth of

information available on consultation coaching techniques (Bergan & Kratochwill, 1990). Furthermore, because of the difficulties of finding time to meet, e-mail and other computer technology has been introduced to the coaching process (Kruger & Struzziero, 1997); yet there is virtually no information available on e-mail coaching. The purpose of the current study was to examine an in-service consultation training program that involved the use of e-mail to provide coaching to consultant-trainees; specifically, it was a study of coaching Instructional Consultation (IC) skills via e-mail. The focus was on qualitatively and descriptively analyzing the types of e-mail responses that coaches provided and that consultant-trainees found useful; the consultant-trainees' level of skill development following e-mail coaching; and participants' perceptions of how the use of e-mail impacted upon the coaching process.

The Current State of Consultation Services

Consultation involves a voluntary relationship between two or more individuals, in which the goals are to resolve a work-related problem and to teach the consultee skills to facilitate problem solving in the future (Rosenfield & Gravois, 1993). There is at present no formal definition of consultation, and multiple models of consultation exist; but most tend to be based upon a core set of components and assumptions. For instance, most models include: indirect service delivery; a triadic relationship between a consultant, consultee, and client, with the consultant as the facilitator of problem solving; the use of a systematic problem-solving process; and a voluntary relationship based on effective communication and genuineness (Kratochwill, Elliott, & Rotto, 1995). The model of consultation that was trained and examined in the current study is Instructional Consultation (IC). In addition to the components described above, this model holds the

assumptions that the focus of problem solving is on the match between the student, the instruction, and the environment, and that teachers are entitled to collaborate and consult with their colleagues to address classroom-based concerns (Rosenfield & Gravois, 1996).

Consultation services have been considered critical to the school psychologist role for several decades, as a means to assist school personnel to facilitate the growth and development of all children (Reschly, 1993). Recently Ysseldyke et al.'s (1997) School Psychology Blueprint for Training and Practice II reiterated this theme, listing consultation as one of the core skills for school psychologists as we move into the 21st century. There are many reasons for this renewed emphasis on consultation services. In the current zeitgeist of educational accountability, consultation is favored because it incorporates a data-based decision making process, and it has documented evidence of its effectiveness (Sheridan, 1992; Ysseldyke et al., 1997). Several literature reviews have recorded positive outcomes for consultation services (Medway & Updyke, 1985; Sheridan et al., 1996), and consultation has been found to have a larger positive effect size (Sibley, 1986, in Bergan & Kratochwill, 1990) than special education services (Kavale & Forness, 1999). Finally, consultation fits conceptually with the ecological model of service delivery that is advocated throughout Best Practices for School Psychology III (Thomas & Grimes, 1995), as both espouse prevention, collaboration, problem solving, data-based decision making, and intervention (Sheridan & Gutkin, 2000; Ysseldyke et al., 1997; Zins, Kratochwill, & Elliott, 1993). The fit between consultation and the ecological model is clear; thus there is both a solid empirical base and a conceptual rationale for the critical role accorded to consultation services.

Despite the persistent exhortations for consultation services, school psychologists continue to spend the majority of their time in traditional psycho-educational assessment activities. According to a survey by Reschly and Wilson (1995), school psychologists spent approximately 22 hours per week in assessment and only 7 hours per week in consultation. Recently, in a commentary on current school psychological services, Reschly (2000) again reported that psycho-educational assessment was the primary activity for school psychologists, with 50-55% of time devoted there as compared to 17% of time for problem-solving consultation and 6% for organizational consultation. These data suggest that the potential benefits of consultation may not be realized due to its low level of use by many school psychologists.

The reason for the discrepancy between best practices and actual practice has been the subject of much debate, and several barriers to consultation have been revealed. Practicing school psychologists cite inadequate time and the difficulty of finding shared time to meet as the primary barrier to delivering consultation services (Costenbader et al., 1992; Fuchs & Fuchs, 1996). Indeed, Reschly (2000) found that the ratio of school psychologists to students does impact the types of services delivered, such that more consultation services are provided in districts with better ratios. In addition, special education funding formulas and legal requirements influence service delivery, as psycho-educational assessment remains the most expected and accepted activity for school psychologists (Costenbader et al., 1992; Reschly, 2000; Sheridan & Gutkin, 2000). However, Reschly (2000) pointed out that legal requirements do not exclude models based on intervention outcomes rather than diagnostic assessments, and so this represents more of a perceived than an actual barrier. In fact, other authors have suggested that it is

school psychologists' belief systems, especially their comfort with the diagnostic role, that most interferes with providing consultation services (Pianta, 2000; Rosenfield, 2000). Finally, many researchers have acknowledged that a large part of the problem lies with inadequate training, and that pre-service training has failed to meet the need to prepare school psychologists to engage in consultation services (Curtis & Zins, 1988).

Training in consultation is inadequate in part because school psychology programs continue to emphasize the traditional model of service delivery (Reschly, 1993; Rosenfield, 2000). In fact, two-thirds of surveyed school psychologists reported having had less than one semester or no course work in consultation, and only 30% indicated that they had received sufficient training in consultation skills (Guest, 2000). On a promising note, it appears that recently trained school psychologists have taken more consultation courses than their predecessors (Costenbader et al., 1992), and that graduate programs now require more consultation course work than they did previously (Anton-LaHart & Rosenfield, in press). Nevertheless, a recent study of school psychology programs revealed that most still offer only one course in consultation that focuses on breadth rather than depth (Anton-LaHart & Rosenfield, in press), as compared to a multiple course sequence devoted to psycho-educational assessment. Finally, a large proportion of programs do not provide graduate students with regular supervision on their consultation skills (Anton-LaHart & Rosenfield, in press), although supervised practice is recognized as essential to consultation skill development (Myric & Sabell, 1995; Sheridan, 1992; Zins & Murphy, 1996). While surveys suggest that training is not directly related to consultation practice, it is related to perception of skill, which is in turn related to practice (Costenbader et al., 1992).

Thus, it may be that some of the barriers to consultation cited above could result from the failure to provide a quality and quantity of consultation training that is sufficient to counter individuals' comfort and skills in the traditional model (Rosenfield, 2000). That is, the lack of opportunity to develop consultation skills could impact on beliefs, since research demonstrates that attitudes follow competency (Showers, Joyce, & Bennett, 1987), and could influence school psychologists' choices of how to allocate time and define their role as well. Therefore, a key strategy for increasing effective consultation services is to improve training in consultation. Continuing education is seen as especially critical to changing school psychological services (Reschly, 1993), as a change in pre-service education will first require practicing school psychologists who are skilled and comfortable with consultation to provide field placements and supervision.

The need for high quality in-service education to increase and improve consultation services is clear. Earlier the inadequate training was thought to be due to insufficient knowledge of training methods and the lack of an empirical base for demonstrating their effectiveness (Conoley, 1981). In the past 20 years, a large amount of research on professional development has been conducted which serves to inform the general design of training. These studies reveal that presentation, modeling, practice with feedback, and coaching are necessary for effective skill acquisition and application (Joyce & Showers, 1980). However, there remains a critical need to explore the application of these principles to the professional development of consultation skills. The current study examined one specific aspect within this area, focusing on the coaching portion of the training sequence—specifically, e-mail coaching of Instructional

Consultation skills—which serves to increase the existing knowledge base on effective consultation training overall.

Consultation Training Practices

Research on consultation training has examined both the content and the process of training– what consultation competencies are required and what are the best techniques for teaching them. While the research on competencies is specific to consultation, the literature on consultation training techniques is premised upon best practices in professional development in general.

Consultation competencies. Because each consultation model differs in its focus and content, it follows that the specific competencies associated with each also vary to an extent. In general, though, most models distinguish between two types of skills required for consultation– artful and scientific (Idol, 1993) or process and content (Rosenfield & Gravois, 1993). Typically, artful or process skills refer to the way in which consultation is delivered, and often include communication skills, collaborative interactions, and the use of a problem-solving process. The scientific or content skills involve the application of research-based knowledge to the process, and may include curriculum-based assessment, effective instructional and management practices, and monitoring and evaluation. Descriptions of the competencies required in specific models are provided in Chapter 2; nevertheless, it is possible to delineate a core set of consultation skills due to the similarities in the models' theoretical perspectives on consultation process (Rosenfield & Gravois, 1993). A synthesis of the literature on consultation competencies suggests that the common core includes: understanding/integrating information about the context and culture in which consultation is to occur; using effective interpersonal and

communication skills; understanding and implementing consultation stages; developing and evaluating interventions; applying skills and relationship factors in complex practice settings; reflecting on practice situations and evaluating one's own skills; and understanding and applying principles of ethics (Rosenfield & Gravois, 1993).

While the literature highlights a basic core of consultation knowledge and skills, and each model further elaborates upon the required competencies, there is relatively little research on novice consultants' learning or application of specific skills. One study that examined graduate students' development of behavioral consultation skills reported that questioning skills improved with didactic training and practice whether or not feedback was provided, but behavior specification skills increased to a greater extent when feedback was provided (Curtis & Zins, 1988). This suggests that behavior specification skills may be more difficult to learn and raises important questions about the process of training specific skills.

Given the complexity of consultation training, information about which skills require a greater intensity of training or respond to specific training modalities would be helpful so that training could be strategically designed to target these areas. At present the research identifies some skills that may require more intensive training for graduate school psychology students; however, given practitioners' experience in the school setting, the consultation competencies for which they require additional support may be different. The current study addressed this area by exploring the themes of the e-mail coaching responses, which IC skills practicing consultant-trainees rated as most and least developed following e-mail coaching; and the relationship between specific coaching responses and ratings of skill development.

Techniques of training. Most graduate-level course work in consultation appears to have been influenced by Froehle's (1978) competency-based approach to training and by Gallesich's (1983) modes of training. Competency-based training involves clearly specifying the skills to be learned and determining to what level they need to be learned (Froehle, 1978). The three levels include knowledge capacity, behavioral capacity, and judgment capacity. For each skill, an acceptable standard of learning and outcomes must be specified, in order to determine when competency has been obtained. Gallesich (1983) held that consultation training should be delivered in four modes. The modes include: didactic, lab activities such as demonstration and role plays, field experience of 8-10 hours per week, and supervision for approximately two hours per week in a small group. Brown (1985) combined Froehle's and Gallesich's approaches to create a model for consultation training. The elaborated model includes didactic instruction to develop knowledge competencies; lab experiences to develop behavioral competencies; field placement activities to develop judgmental competencies; and supervision to establish a personal standard of functioning.

This framework represents best practice in consultation training but is not implemented by all graduate programs, as can be seen from the surveys described earlier (Anton-LaHart & Rosenfield, in press; Guest, 2000). However, there are many examples of programs in behavioral consultation (Kratochwill, VanSomeren, & Sheridan, 1989; Kratochwill, Sheridan, Rotto, & Salmon, 1991; Sheridan, 1992), in combined organizational/mental health consultation models (Carlson & Tombari, 1986; Conoley, 1981; Gallesich, 1983), and in Instructional Consultation (Rosenfield & Gravois, 1996) that have applied this framework to pre-service consultation preparation. While the

specific programs are discussed in greater detail in Chapter 2, it is important to note that most of these programs demonstrated positive outcomes in terms of the achievement of objectives and the development of consultation skills.

Thus, there is evidence for effective graduate-level consultation training; but it cannot be assumed that what works for pre-service is effective for in-service. First, the training described above is cost- and time-intensive and can typically only be provided in a graduate program setting (Bergan & Kratochwill, 1990), so a different format might be required for in-service training. Second, practitioners are integrated into the school environment and must learn consultation within this context, which is more complex and has greater demands than the typical graduate field experience. Finally, there is a sizeable literature on adult learning and effective professional development (Hawley & Valli, 1999; Showers et al., 1987; Sparks & Loucks-Horsley 1990), which must be considered when designing in-service consultation training. A brief synopsis of this literature follows.

Much of the knowledge on effective in-service training comes from the research on teacher staff development. Staff development is a process that improves job-related knowledge, skills, and attitudes of school employees (Sparks & Loucks-Horsley, 1990). Up until and through the 1980's, staff development mostly consisted of one-shot workshops that were found to be ineffective for changing teachers' classroom practices. Since the application of new techniques in the classroom is the goal of in-service training, this failure spurred research and reviews that helped to inform the design of more effective professional development practices.

A synthesis of the relevant research suggests that the central principle for effective professional development is continuous teacher and administrator learning in a context of collaborative problem solving (Hawley & Valli, 1999). Specifically, training should be school-based and driven by an analysis of the differences between actual and desired student/school performance, as part of a larger change process. The information provided should be based on research and experience, and must promote a theoretical understanding of the knowledge and skills to be learned. In fact, Showers et al. (1987) found that what a teacher thinks about teaching determines what she does, so the development of conceptual knowledge is fundamental to effective skill application. Finally, follow-up and support are necessary for further learning and application (Hawley & Valli, 1999; Showers et al., 1987).

Showers et al. (1987) reviewed over 200 studies to analyze the factors that do and do not affect transfer of training to the classroom. Their findings revealed that variables such as where and when training is offered, and who delivers the training, are not important to skill transfer; on the other hand, training design is significantly related to transfer. Specifically, presentation of theory by lecture, discussion, or reading raises participants' awareness of the importance of a topic; modeling and demonstration stimulate conceptual knowledge; practice in simulated conditions leads to skill acquisition; structured feedback based on observation helps to make changes; and coaching to analyze the content and approach to be taken facilitates transfer of skills to the classroom (Joyce & Showers, 1980). Therefore, staff development must create the conditions to reach a sufficient level of knowledge and skill to sustain practice, through presentation of theory, demonstration, practice, and feedback; and must also provide the

conditions to support practice until executive control is achieved, through expert or peer coaching.

While some in-service training in consultation has involved one-shot workshops (McDougall, Reschly, & Corkery, 1988), several professional development programs in consultation have incorporated all of the components recommended by Showers et al. (1987; see, for example, Bergan, Curry, Currin, Haberman, Nicholson, & Ronstadt, 1973; Gravois, Rosenfield, & Vail, 1999b; Goodwin, Garvey, & Barclay, 1971; Grimes & Reschly, 1986, in Reschly, 1993; Rosenfield & Gravois, 1996). These in-service programs have been delivered primarily within the behavioral and instructional consultation models. Results suggest that those that have incorporated all of the recommended components have been rated as effective (Gravois, 1994, 1995, 1996; Vail, 1997, 1998, 1999) or have demonstrated success in increasing practitioners' knowledge or skills (Bergan et al., 1973; Goodwin et al., 1971). However, the literature base on in-service training in consultation is small; several of the studies are outdated; and the more recent evaluations have not included measures of skill acquisition.

The Instructional Consultation (IC) in-service training sequence involves a 20-hour workshop that includes presentation of theory, demonstration and practice of skills, and feedback. Following the workshop, participants take a "training" case and are coached (sometimes via e-mail) in the application of IC skills. The current study examined consultant-trainees' skill development following the e-mail coaching portion of the training, using self- and coach ratings, thus contributing to the literature base on outcomes of comprehensive in-service consultation training programs.

Supervision/ coaching. One of the critical issues in training involves the transfer of newly learned skills into practice (Rosenfield & Gravois, 1993). There is general agreement in the pre-service and in-service literature that skill transfer requires supervision or coaching. While the need for supervision to apply consultation skills is acknowledged, there is relatively little literature available on consultation supervision. Thus the literature on counselor and teacher supervision was reviewed to obtain additional information. In general, the term "supervision" denotes a hierarchical relationship, as between professor and student, while the term "coaching" signifies a more collegial relationship as in a practice setting. More research has been conducted in the area of supervision than in coaching, so the term "supervision" is used when discussing the literature. However, as the current study involved coaching rather than supervision, the term "coaching" is used when referring specifically to this study.

The goals of supervision in general are to develop and enhance required skills and to increase self-awareness and autonomy (Brown, 1985; Ward & House, 1998). These goals are typically achieved through a series of meetings in which the supervisor applies strategic behaviors to facilitate the trainee's development. Early theories of supervision emphasized the learning situation inherent in supervision, the value of a good supervisor-supervisee relationship, and supervisor roles rather than techniques (Leddick & Bernard, 1980). Supervisors were accorded the roles of teacher, who shapes cognitive growth directively; counselor, who provides support and encourages insight non-directively; and consultant, who shares personal perspectives collaboratively (Kagan, 1988). The didactic teaching role of the supervisor was predominant in the early literature on supervision.

More recent models of supervision place a greater emphasis on the consultative or "coach" role of the supervisor. For example, Schon (1987) suggests that learning the artistry of consultation requires reflective practice, which involves learning by doing, coaching rather than teaching, and a dialogue of reciprocal reflection. In the reflective model of counseling supervision, Ward and House (1998) hold that reflective learning, which involves problem solving around moments of uncertainty, provides the critical context for exploring dissonant experiences and developing higher order thinking. In a similar vein but with a different focus, Showers and Joyce (1996) describe coaching as a model for helping teachers to learn and implement new practices. It involves an expert or peer coach working with a teacher collaboratively to select focus areas of development, observe for focus skills, and analyze data and reflect upon improvements to practice (Sparks & Loucks-Horsley, 1990). In all three of these new conceptualizations, the role of prescriptive feedback and suggestions is minimized, and the power of reflecting on action and joint problem solving is emphasized.

Several studies have been conducted to measure supervisors' behaviors during supervision. These studies typically involve taping supervisory interactions and then coding supervisor responses into categories. The results of this research with both counselor and teacher supervisors suggest that supervisors provide information, suggestions, and clarifications most frequently, and rarely engage in reflection or problem solving (see Borders, 1991; Holloway & Wampold, 1983; Zeichner & Liston, 1984). Trainees indicated a preference for supervisors asking them for ideas and suggestions (Holloway & Wampold, 1983), and were found to respond defensively to prescriptive suggestions (Gitlin, Ogawa, & Rose, 1984). Some researchers contend that

supervisor behaviors change according to the developmental level of trainees, from didactic and prescriptive with novices to consultative and problem solving with experienced trainees, and that trainees' preferences are consistent with this developmental model (Stoltenberg, McNeill, & Crethar, 1994).

Research on consultation supervision was conducted to examine the concerns expressed by supervisors and trainees. Specifically, Conoley (1981) found that supervisors indicated concerns with their role in modeling consultation while meeting supervision demands and with the predominance of advice giving rather than problem solving by students. Supervisees for their part expressed a preference for focusing on didactic activities rather than personal growth and discomfort with giving and receiving professional feedback. While the study did not specifically examine supervisor behaviors, the results suggest that advice predominated over problem-solving feedback. The literature is thus consistent in its finding that supervisors tend to provide suggestions or feedback in a fairly didactic manner more than they engage in reflection or problem solving.

There is little research available on the relative merits of a prescriptive versus a reflective approach to supervision in counselor and teacher education, and there is no information on the types of behaviors that predominate in consultation supervision or in a coaching relationship. The current study attempted to address this gap in the literature by examining the types of responses provided when experienced peers coached school-based practitioners via e-mail as they implemented collaborative Instructional Consultation. Finally, the consultant-trainees' perspectives on what types of e-mail coaching responses were most helpful to their consultation skill development were examined as well.

E-mail Coaching

The use of technology in education is increasing rapidly, due to the emergence of lifelong learning concepts, the needs of adult learners, and advances in technology that make education from a distance possible (Maxwell & McCain, 1995; Mehotra, 1998). Supervision or peer coaching over the Internet is one of the many applications of technology in education that is being used today (see Kruger, Struzziero, Kaplan, Macklem, Watts, & Weksel, 2001b; Myric & Sabell, 1995). The use of computer technology to deliver coaching has implications for the coaching process itself, which must be considered in this study since the consultation coaching was delivered by electronic mail (e-mail).

Advantages and limits to e-mail. E-mail involves asynchronous communication at a very quick rate. This has the advantage of allowing much greater convenience and flexibility, by removing the constraints of finding a common meeting time and place (Kruger & Struzziero, 1997; Maxwell & McCain, 1995; Spitzer & Wedding, 1995; Van Gorp, 1998). This flexibility helps to address the problem of time that has been a barrier to providing quality supervision (Kruger & Struzziero, 1997). In addition, e-mail allows access to people with specialized expertise and the possibility of immediate feedback (Kruger & Struzziero, 1997; Mehotra, 1998). E-mail is also purported to increase learner-centered instruction, as communication can be focused on individual rather than group needs (Mehotra, 1998; Van Gorp, 1998).

Another advantage of e-mail with reference to coaching is that text-based communication allows people a greater opportunity to reflect and form responses (Myric & Sabell, 1995; Spitzer & Wedding, 1995; Van Gorp, 1998). This clearly could be a

benefit to the learning process if it increases participants' tendency to reflect on their actions and on the feedback they receive. In fact, school psychologists who participated in an e-mail peer support group as they developed consultation skills, and school personnel who received follow-up training in team problem solving by e-mail, reported that the e-mail messages did help to increase their knowledge and expertise (Kruger, Cohen, Marca, & Matthews, 1996; Kruger & Struzziero, 1997). These studies suggest that e-mail can be an effective tool for supporting learning.

However, e-mail is not without its inherent limits and disadvantages as well. Technical problems with e-mail include difficulty with accessing the network (Spitzer & Wedding, 1995) and slow typing speed, which lend to a focus on the task of e-mailing rather than on the content (Bordia, 1997). There also may be affective disadvantages, because e-mail is an impersonal tool and may raise issues of privacy, trust, security, and control (Thomas, Clift, & Sugimoto, 1996). In addition, although e-mail is speculated to enhance learning, the learning outcomes are unclear (Van Gorp, 1998). These limitations could contribute to difficulties in using e-mail to provide consultation coaching.

The most significant factor to consider, however, is that communication via e-mail differs in some essential ways from face-to-face communication. First, non-verbal cues, which are critical to understanding and interpreting message meaning, are absent in e-mail (Bordia, 1997). This can cause decreased attentiveness to the social context and a lack of inhibition, and may lead to poorer perception and understanding of complex messages (Strauss & McGrath, 1994). Second, the use of e-mail limits the options for supervisor/ coach behaviors– the provision of conceptual information and feedback are possible via e-mail, but observation, modeling and practice of skills are not (Kruger et al.,

2001b). As such, the use of e-mail constrains coaches' responses, and so its impact upon the coaching process must be considered. The final question that was addressed in the present study was indeed how the use of e-mail as the medium to deliver coaching impacted upon the coaching process overall.

Statement of the Problem and Research Questions

The call for consultation services is sounding loudly in the literature, yet school psychology practice has not responded. While there are many potential barriers to consultation, training is seen as one of the critical routes to increasing alternative service delivery. This study examines an in-service Instructional Consultation (IC) training program for school-based practitioners that involved coaching IC skills via e-mail. The literature on in-service training and professional development stresses the importance of coaching in order to ensure the transfer of skills to the practice setting, but there is little research on the application of these techniques within consultation training. Specifically, there is a dearth of information on the types and effectiveness of coach behaviors, or skill development following consultation coaching. Moreover, coaching via e-mail is a relatively new phenomenon that has received little research attention. Since e-mail impacts on communication, it is important to consider how the use of e-mail affects the consultation coaching process. The purpose of this study, then, is to conduct an exploration of the types of responses provided during e-mail coaching, of participants' perceptions of consultant-trainees' skill development following coaching, and of participants' perceptions of e-mail as a mode for engaging in consultation coaching. Due to the exploratory nature of the study, the research questions are primarily descriptive or qualitative:

1. The art of coaching: What themes, styles, and behaviors characterized coaches' e-mail responses to consultant-trainees learning to apply Instructional Consultation skills?

2. Did coaches differentiate their coaching responses to consultant-trainees? If so, was this based on the consultant-trainees' selection of Focus Skills for additional feedback?

3. The quality and benefits of coaching:

    a. How did consultant-trainees rate the quality of the e-mail coaching?

    b. Did the consultant-trainees perceive an increase in their IC skills following e-mail coaching? To what degree and for what skills?

    c. How skilled did consultant-trainees and coaches perceive the consultant-trainees to be at the end of the e-mail coaching experience?

    d. To what degree did the consultant-trainees perceive the coaching to contribute to their skill development?

    e. What events and types of coaching responses did consultant-trainees perceive to be most and least helpful to their skill development?

4. What, if any, was the relationship between specific coaching styles and consultant-trainees' perceptions of the benefits of coaching?

5. Perceptions of the use of e-mail for coaching: What were the positive and negative aspects of using e-mail for coaching Instructional Consultation skills?

Definition of Terms

Consultation

Consultation is an indirect service that involves a consultant working with a consultee to address a work-related problem. The relationship between the consultant and consultee is voluntary, and in many models of consultation is described as collaborative (Rosenfield & Gravois, 1993). Together the consultant and consultee work through a systematic problem-solving process to identify problems, establish goals, design interventions, and evaluate their effectiveness (Kratochwill et al., 1995). The goals of consultation are typically to address the work-related problem and to increase the consultee's skills in problem solving.

Instructional Consultation (IC) is the specific model of consultation that was the focus of the current study. IC is a joining of "the process of collaborative consultation and the knowledge domain of instructional psychology" (Rosenfield, 1987, p.3). Specifically, IC involves a collaborative relationship between a consultant (case manager) and a teacher, who work together through a systematic problem-solving process to address a classroom-based concern. The collaborative nature of the process is established through the use of effective communication skills. The focus of problem solving is on creating a match between the student's skills, the instruction, and the task demands (Rosenfield, 1987).

Consultation Competencies

Most models of consultation outline the critical competencies required for competent performance of the consultation process. These competencies include both artful/process skills and scientific knowledge/content (Idol, 1993; Rosenfield & Gravois,

1993). In general, process skills include problem solving and communication, and knowledge includes assessment and intervention strategies; but the specific skills and knowledge vary according to the model of consultation.

The critical competencies of Instructional Consultation include the skills of: problem solving, including contract setting, problem identification, problem analysis, intervention planning, intervention implementation, and termination; communication, including paraphrasing, summarizing, clarifying, elaborating, reflective listening, perception checking, relevant questioning, and offering information; and data collection, charting and graphing (Rosenfield & Gravois, 1996). IC consultants must also be knowledgeable of: assessment techniques, including curriculum-based assessment (CBA), observation-based assessment, instructional environment assessment, and task analysis; and intervention strategies, including effective instruction, behavior modification, classroom management, and instructional and curriculum modifications. These skills and knowledge are the focus of IC training and coaching.

In-service Training

In-service training refers to activities designed to improve the knowledge, skills, and attitudes of school-based practitioners (Sparks & Loucks-Horsley, 1990). Effective professional development incorporates presentation of theory to develop awareness, modeling to increase conceptual understanding, and practice with feedback to develop skills (Joyce & Showers, 1980). The conceptual control gained through training is critical to teachers' use of new practices, but transfer of new skills to the classroom requires ongoing coaching and feedback (Showers et al., 1987).

Training in Instructional Consultation was designed in accordance with the research on effective professional development. Specifically, trainees participate in a 20-hour workshop in which they are exposed to the theory and process of Instructional Consultation, they have opportunities to see the problem-solving stages and communication skills modeled, and then they practice and receive feedback on these skills. This training serves to develop participants' conceptual understanding and acquisition of IC skills. However, this workshop training is insufficient to ensure the application of the IC skills in practice, and so IC training also includes a coaching component.

Coaching

The goal of coaching is to help novice consultants to apply their newly acquired consultation skills in an actual case. In general, this takes place in the context of the trainee engaging in a consultation case and receiving feedback on her use and application of skills. Recent conceptualizations of coaching stress the importance of modeling, reflection, and collaborative problem solving to the trainee's skillful application of competencies (Schon, 1987; Showers & Joyce, 1996; Ward & House, 1998).

Within the IC training model, coaching is provided to novice IC consultants by facilitators who are experienced in consultation and trained in a coaching process. The coaching process involves a pre-conference to select a Focus Skill and a method for collecting data on its use, the consultation meeting and data collection stage, and a coaching conference to review the data collected and analyze the use of the skill (Rosenfield & Gravois, 1996). However, due to the difficulty of finding shared time to meet and the number of consultant-trainees in need of coaching, this process was adapted

for distance coaching via e-mail. Consultant-trainees audiotape their consultation meetings, mail their tapes to a coach, and receive a coaching response via e-mail. In their e-mail communications, coaches and consultant-trainees can discuss and clarify the feedback and select a Focus Skill for the next meeting. Coaches are provided with a framework for their feedback to ensure that they address all aspects of the Instructional Consultation process; the categories include: appropriateness of content to the consultation stage; quality of the working relationship with the teacher; accuracy of the Student Documentation Form (SDF), which is the form utilized to record the steps of the process and monitor student progress; quality and appropriateness of curriculum-based assessments (CBA); Focus Skill area performance; and overall effectiveness and efficiency of the consultation meeting.

Focus Skills

Focus Skills are specific IC skills selected collaboratively by the coach and consultant-trainee to be the focus of observation and feedback in the coaching response. Showers and Joyce (1996) indicated the importance of establishing focus areas for coaching in order to maintain the collaborative and reflective nature of the interaction. Within the e-mail IC coaching process, consultant-trainees were provided a list of the critical IC competencies to consider when choosing a Focus Skill. Each week in the e-mail coaching response, the coaches reminded the consultant-trainees to review the list of potential Focus Skills and to make a section for the following week, and they made several suggestions of skills that would be relevant in the next meeting. The consultant-trainees were then expected to select a specific Focus Skill for the following week. This process was repeated on a weekly basis throughout the e-mail coaching experience.

Coaching Responses

This term refers to the types of responses that coaches provide to consultant-trainees during coaching, which were delivered by e-mail in the current study. Several coding measures have been developed or adapted to categorize supervisor behaviors during supervision. For example, in Holloway and Wampold's (1983) adaptation of the Blumberg Interaction Analysis, supervisor behaviors included: providing support; providing information; asking for opinions or suggestions; providing opinions or suggestions; and responding defensively. In a coding system created for analyzing logical discourse during post-observation supervision conferences, four types of discourse were identified: factual (information), prudential (suggestions), justificatory (rationale), and critical (analysis; Zeichner & Liston, 1984). Others have viewed supervisor behaviors more broadly and have included both "telling" and "showing" (Schon, 1987). However, only "telling" types of behavior are possible on e-mail; Kruger et al. (1996) defined these as: observation-based information, suggestions, conceptual information, personal information, support, specific feedback, group feedback, and global feedback.

Interestingly, although there has been a shift toward viewing the supervision process as involving reflective questioning and collaborative problem solving, there has not been a description in the literature of the types of supervisor behaviors or responses that encapsulate these new approaches. Furthermore, many of the existing category systems were not designed specifically to observe supervision, and none were created to measure coaching rather than supervision. Therefore, this study did not rely upon a previous categorization of supervisor responses but instead undertook a qualitative

examination of the coaches' written responses, to learn what types of responses are provided when coaching Instructional Consultation skills via e-mail.

E-mail Communication

Electronic mail (e-mail) is a type of computer-mediated communication that involves asynchronous communication between two or more parties. Although the sender and receiver are not communicating at the same time, the message is transmitted almost immediately and is typically accessible within minutes. Thus e-mail does not rely on two people to be available at the same time but remains a very quick form of communication.

For the purpose of the current study, all coaches and consultant-trainees obtained their own e-mail accounts through their school system or a private e-mail server. Each participant had access to a computer either at home or at work in order to send and receive e-mail, and all coaching communications (other than mailing tapes of consultation meetings) occurred via e-mail. Because e-mail messages are easily intercepted and no encryption programs were utilized to make the messages unreadable by others, the coaches and consultant-trainees were instructed not to utilize the names of teachers or students in their e-mail messages.

Chapter 2

REVIEW OF RELATED LITERATURE

Although school psychologists' role continues to be driven by psycho-educational assessment and special education placement activities (Reschly, 2000), there is an increasing demand for school psychologists to provide consultation services to teachers and parents (Sheridan, 1992; Ysseldyke et al., 1997). Consultation is an indirect model of service delivery, which involves a voluntary and often collaborative relationship between a consultant and consultee, who engage in systematic problem solving to address a work-related concern (Rosenfield & Gravois, 1993). The rationale for providing consultation services as opposed to psycho-educational assessment and placement is strong: consultation services have been documented to be effective (Medway & Updyke, 1985; Sheridan et al., 1996), with a moderate but positive effect size of .75 recorded for behavioral consultation (Sibley, 1986, in Bergan & Kratochwill, 1990) as compared to the small but negative effect size consistently found for many special education interventions (Kavale & Forness, 1999). In addition, since working with a single consultee can indirectly impact a large number of clients or students, consultation services are more efficient than individual testing and placement (Zins et al., 1993). As the number of children requiring services increases, so will the necessity of consultation.

The impetus for consultation is greater than simply its empirical basis, as the call for consultation also has a strong foundation in principle. The traditional model of psycho-educational assessment and placement that dominates the field is premised upon a deficit model in which assessment represents a search for pathology within the student (Roberts, 1995). This model largely ignores the environmental variables that affect learning and behavior. Current conceptualizations favor an ecological model (Sheridan &

Gutkin, 2000), which considers the influence of the student, classroom environment, and instructional practices in understanding and addressing student learning and behavior problems (Roberts, 1995). This shift in focus from within-child deficits to the interaction between student and environmental variables requires a change in practice, toward the use of assessments that explore the relationship between academic skills and the classroom environment and that link to interventions (Roberts, 1995).

Within the ecological model, there is therefore an emphasis on data-based decision making, systematic problem solving, intervention, collaboration, and home-school connections (Sheridan & Gutkin, 2000; Ysseldyke et al., 1997). Consultation, which involves the use of collaborative problem solving to collect data in order to design and evaluate interventions (Zins et al., 1993), is conceptually consistent with the ecological model. In fact, consultation may be to the ecological model what psycho-educational assessment is to the deficit model– the core service necessary to carry out the activities associated with the model. Thus, if school psychology is to adopt a new model of understanding and addressing children's problems, one that is premised upon creating pathways to success rather than documenting internal reasons for failure, then school psychologists must begin to assume a broader role, with the practice of consultation as one of their core services (Reschly, 1993).

Surveys of school psychologists' current practices reveal that, despite the exhortations to assume a broader role, the majority of their time is still spent in diagnosing and placing students (Reschly & Wilson, 1995; Reschly, 2000). Although there are many possible reasons for this, including special education funding mechanisms and inadequate time, a chief contributor is the lack of adequate training in consultation

(Reschly, 2000; Rosenfield, 2000). While the number of school psychology programs requiring consultation course work has increased in recent years (Anton-LaHart & Rosenfield, in press), most continue to emphasize psycho-educational assessment over consultation. In the latest surveys, it has been found that many graduate programs offer only one course in consultation as compared to multiple courses in assessment, and a large proportion of programs do not provide regular supervision of consultation skills (Anton-LaHart & Rosenfield, in press). In fact, the majority of school psychologists (66%) have taken less than one semester of consultation training (Guest, 2000). Rosenfield (2000) suggests that this level of consultation preparation is insufficient to counter graduate students' comfort and skills in the traditional model; thus it is small wonder that school psychological services continue to be dominated by psycho-educational assessment.

This pattern is unlikely to change of its own accord, since school psychologists who are trained in a traditional service delivery model are likely to practice and to train other psychologists in the same model. To break the cycle, high quality training in consultation is required at both the graduate and in-service levels (Reschly, 1993; Rosenfield & Gravois, 1993). Reschly (1993) identified in-service training in consultation as especially critical, to address the deficiencies in graduate course work and to change the current trend in services. To accomplish this requires an understanding of how to train consultants effectively in the skills needed to practice consultation.

Consultation Training

The literature of the past three decades offers descriptions of consultation training programs representing several models. The behavioral consultation model has generated the most research on consultation training activities, but other models such as mental health, organizational, collaborative, and instructional consultation have also provided descriptions of training programs. In order to present the information concisely, a chart of the training content and techniques for the various models of consultation is provided (see Tables 1 and 2).

Content of Training: Consultation competencies

Within consultation, the requisite competencies include both process skills, or the art of consulting, and content knowledge, or the scientific knowledge base that informs the process (Idol & West, 1987; Rosenfield & Gravois, 1993). All of the consultation models included in Table 1 have outlined, either specifically or generally, the skills and knowledge that are required for competent performance and that are taught within the training sequence.

Table 1.

Graduate-level Consultation Training.

Model and Research	Content	Techniques
Behavioral Consultation Brown et al., 1982 Kratochwill et al., 1989 Kratochwill et al., 1991 Sheridan, 1992	Interview objectives: Problem Identification (PII), Problem Analysis (PAI), Treatment Evaluation (TEI) Communication skills	Competency-based training: Manual, video, role play, feedback, peer supervision
Organizational Consultation Gallesich, 1983	Entry, contracting, diagnosis, intervention, ethics, roles & relationships, agencies	Didactic: lecture, discussion Lab: demonstration, role play Field: 8-10 h./wk Supervision: 2 h./wk
School-based Consultation Lambert, 1983	Relationship building, Problem ID, & Intervention	Field placement w. small group supervision
Problem-solving Consultation Henning-Stout, 1999	Behavioral & instructional consultation skills	Logs, feedback, papers Group case supervision
Hybrid: 4 models Conoley, 1981	Entry & contracting, implementing strategies, diagnosing organizations, personal impact awareness	Didactic: lecture & discussion Lab: video & role play Field work Supervision: 2 h./wk

Table 1 Continued.

Model and Research	Content	Techniques
Hybrid: 3 models Carlson & Tombari, 1986	Mental health, organizational, behavior consultation skills	Didactic Lab: video & role play Field experience Supervision
Collaborative Consultation Curtis & Zins, 1988	Collaborative communication	Didactic Lab: demonstration & role play Feedback (for half)

Table 2.

In-Service Consultation Training.

Model and Research	Content	Techniques
Behavioral Consultation Goodwin et al., 1971	Behavior modification techniques	Microconsultation
Behavioral Consultation Bergan et al., 1973	Interview objectives & Communication skills	4 wk workshop: lecture, role play, feedback Supervised practice 1 year
Behavioral Consultation McDougall et al., 1988	PII Interview objectives	4 wk workshop: lecture, video, role play, feedback
RE-AIM Grimes & Reschly, 1986 Reschly & Grimes, 1991	Behavioral consultation RQC decision making CBA	Three 2-day workshops: manual, discussion, modeling, role play
Collaborative Consultation Idol & West, 1987	Communication, problem solving, assessment & intervention	2.5-5 day workshop: manual, video, practice
Instructional Consultation Rosenfield & Gravois, 1996; Gravois, 1994-96; Vail, 1997-99; Coffey, 2000	Problem solving skills, collaborative communication skills, CBA & intervention	4-5 day workshop: presentation, demonstration, role play, feedback Coaching for application

The Instructional Consultation model (IC; Rosenfield, 1987), which is the model that was the focus of the current study, has outlined a specific set of skills and knowledge required for effective practice. Instructional consultants must be knowledgeable of and able to apply the problem-solving steps: Entry/Contract setting, Problem Identification and Analysis, Intervention Design and Implementation, Intervention Evaluation, and Closure (Rosenfield & Gravois, 1996). In addition, they must be skilled in effective communication, including paraphrasing, summarizing, clarifying, offering information, reflective listening, and relevant questioning; and in collecting and graphing data within their case. Instructional consultants must also be knowledgeable of and skilled in conducting assessments, such as Curriculum-based Assessment (CBA), Observation-based Assessment, and Instructional Environment Assessment (Rosenfield & Gravois, 1996). Finally, instructional consultants must be familiar with and able to apply the scientific knowledge base on effective interventions, including best practices in instruction, behavior modification, classroom and instructional management, and self-management strategies.

Within the behavioral consultation literature, competencies are defined in terms of the problem-solving interview sequence and the communication skills needed to complete the interviews. The problem-solving stages in behavioral consultation include the Problem Identification Interview (PII), the Problem Analysis Interview (PAI), Plan Implementation, and the Treatment Evaluation Interview (TEI; Kratochwill et al., 1995). Consultants are provided with interview scripts and specific questioning strategies to guide them through these stages (Bergan & Kratochwill, 1990). Knowledge and ability to carry out the problem-solving interview sequence and to utilize the specific

communication skills represent the competencies to be mastered by behavioral consultants. Specifically, the training objectives required for the PII include the skills of salutation, summarization, validation, and questioning. The content objectives for PII include: behavior specification, setting, conditions, behavior strengths, assets, goal definition, existing procedures, and data recording and collection procedures (Kratochwill et al., 1989).

Other models, such as organizational and mental health consultation, have also indicated the general skills and knowledge base required for effective consultants. Gallesich (1983) described the conceptual framework and skills of organizational consultation. Conceptually, organizational consultants must understand agencies, including open systems properties, management theories, group process, and organizational culture; and they must also understand consultation, including its origins, functions, and specific models. In addition, the skills required to engage in organizational consultation include: entry, contracting, diagnosis and intervention, roles and relationships, self-understanding, evaluation, and ethics. Within school mental health consultation, Lambert (1983) listed problem solving, including relationship building, problem identification, and intervention; questioning; and knowledge of the nature of schools as the critical competencies for consultants.

In the consultation models discussed above, the developers typically defined critical competencies using a process of program translation. Researchers in the collaborative consultation model have taken a different approach, by conducting a series of studies using the delphi technique to determine experts' views on the critical competencies of consultation (Idol & West, 1987). Using this technique, 47 critical skills

were identified and arranged into a consultation training curriculum. Competencies included both artful skills, such as consultation theories and models, research, personal characteristics, interpersonal communication, collaborative problem solving, systems change, equity issues, and evaluation of consultation effectiveness; and scientific knowledge, including assessment and diagnosis, instructional content and practices, managing student behavior, planning and managing the learning environment, and monitoring and evaluating (Idol, 1993).

Despite the differences in specific skill focus apparent in the various models, it is clear that there are global competencies common to all models. Rosenfield and Gravois (1993) provided a synthesis of the consultation literature in an effort to establish a basis for a core set of skills in consultation training. They found the core set of consultation competencies to include: understanding/ integrating information about the context and culture in which consultation is to occur; using effective interpersonal communication skills; understanding and implementing consultation stages; developing and evaluating interventions; applying skills and relationship factors in complex practice settings; reflecting on practice situations and evaluating one's own skills; and understanding and applying principles of ethics. This set of consultation competencies could serve as a guide for designing training and evaluating consultants' competencies. However, this literature represents program developers' conceptions of consultation competencies rather than empirical research, and the question of what core skills are necessary for consultants remains (Rosenfield & Gravois, 1993). In addition, there is an implicit assumption in the literature that all skills are equal in terms of the types and amount of training they require;

yet it may be that consultants are able to integrate and apply some skills more easily than others.

Although most of the research on consultation training focused solely on whether or not the global competencies were learned and applied as a result of training, a few studies examined consultants' use of specific skills. For instance, Curtis and Zins (1988) measured graduate students' use of questioning, problem solution, and behavioral specificity statements before and after training in collaborative consultation. All of the participants were provided 11 weeks of training using didactic methods, demonstration, videos, role plays, and written self analysis; and half of the participants also received feedback. The results indicated a significant increase in questioning and behavioral specificity for both groups and a non-significant decrease in problem solution, which was already low at the beginning. However, only the skill of specifying behaviors in objective terms demonstrated an interaction effect for feedback, suggesting that development of this skill was more difficult for participants and required feedback in addition to the standard training sequence.

In sum, the available literature reveals that there may be a core set of consultation competencies common to all models, which are further delineated within each consultation model into a specific set of knowledge and skills to be trained. One study of consultation training has noted the impact of training on the development of specific skills, and the findings suggest that some consultation competencies may be easier (questioning) and others more difficult (behavioral specificity) to learn (Curtis & Zins, 1988). While this raises an interesting possibility– that some consultation skills may require more attention in training than others– there is a need for greater information to

determine whether this is simply an individual learning difference or whether it reflects the difficulty of the skills themselves. This remains an area in need of further investigation, and this study touched on this topic by offering descriptive information about consultant-trainees' perceptions of which Instructional Consultation skills were learned to the level of application and which required the greatest amount of feedback to learn.

Training Process: Techniques of training

The design of consultation training as described in the literature has been influenced by several training frameworks. Froehle's (1978) competency-based training and Gallesich's (1983) modes of training have influenced graduate-level training, and Joyce and Showers' (1980) level of impact model for professional development has helped to guide in-service training.

Graduate course work. Although it is clear from the surveys discussed earlier that graduate course work in consultation is limited, the programs described in the literature tend to be more comprehensive, based on Froehle's and Gallesich's frameworks, and may be thought of as exemplary. Froehle's (1978) competency-based training involves specifying the skills to be learned in objective terms; organizing and classifying them into knowledge, behavioral skill, and judgmental competencies; determining what skills should be performed to what level of proficiency; and assessing whether the trainee has attained the prescribed degree of performance. Of note, the premise of the competency-based approach is that training continues until the trainee reaches the prescribed level of performance.

This framework has served as the basis for the majority of behavioral consultation training (Brown, Kratochwill, & Bergan, 1982; Kratochwill et al., 1989; Kratochwill et al., 1991; Sheridan, 1992). As described earlier, the developers of behavioral consultation have specified the skills and competencies to be achieved through training, and have also designed tools for measuring whether the consultant has attained the desired level of performance. Specifically, behavioral consultants must achieve 80% or more of the objectives indicated for the Problem Identification, Problem Analysis, and Treatment Evaluation Interviews before they are considered to be skilled, and training continues until this criterion is achieved (Kratochwill et al., 1989).

The other major influence on graduate-level consultation training is Gallesich's (1983) description of the four modes of training and Brown's (1985) combination of Froehle's and Gallesich's models. According to Gallesich (1983), there are four modes that are required to train consultants: didactic experiences; lab exercises, including demonstration and role plays; field experiences of 8-10 hours per week; and supervision in small groups. Brown (1985) provided a critical link to Froehle's earlier work by suggesting that didactic training develops the knowledge base; lab exercises promote behavioral competencies, field placement impacts on judgmental competencies; and supervision aims at developing personal standards and an appropriate attribution system.

This framework for training has been applied consistently in all of the graduate-level consultation course sequences described in Table 1, be they behavioral, organizational, or mental health consultation, or a combination thereof (Brown et al., 1982; Carlson & Tombari, 1986; Conoley, 1981; Gallesich, 1983; Kratochwill et al., 1989; Kratochwill et al., 1991; Sheridan, 1992). Although the specific techniques differ,

all of the consultation training programs involved didactic instruction, lab/simulated practice experiences, field experiences, and some form of supervision. While the behavioral consultation trainers utilized a manual for didactic instruction, other programs used lecture, discussion, reading, and written assignments to develop the knowledge base (see Carlson & Tombari, 1986; Conoley, 1981; Gallesich, 1983). All of the programs used videos and role plays in a simulated setting to develop skills, followed by actual experiences with delivering consultation while receiving supervision. Supervision was provided by a university professor (Carlson & Tombari, 1986; Gallesich, 1983), by an experienced peer (Kratochwill et al., 1989; Kratochwill et al., 1991; Sheridan, 1992), or by both a university professor and a field supervisor (Conoley, 1981). Nevertheless, all of the graduate-level course sequences in consultation described in the literature are based upon the framework developed by Gallesich and expanded by Brown.

In-service training. The design of effective in-service training has been informed by research on teacher professional development. Based on a review of the literature on training outcomes, Joyce and Showers (1980) described the impact of various techniques of training. They found that: presentation of theory through reading, lecture, and discussion raises awareness of the importance of the topic; modeling by live demonstration or video helps to develop conceptual knowledge or intellectual control over the content; practice in simulated conditions leads to skill acquisition; structured feedback, including observation and opportunities to reflect, helps to make changes in practice; and coaching by peers or experts to analyze the approach to be taken is necessary to transfer skills to the classroom. In subsequent analyses of the literature, Showers et al. (1987) found that the first four components– theory, demonstration,

practice, and feedback– are necessary to reach a sufficient level of knowledge and skill to sustain practice, and coaching is often required to support practice until executive control is achieved.

Of the six descriptions of in-service training programs in consultation described in Table 2, five included didactic activities, demonstration, practice, and feedback, which are sufficient to acquire skills; and two (Bergan et al., 1973; Rosenfield & Gravois, 1996) provided ongoing coaching or supervision in order to facilitate the application and transfer of skills. Clearly the design of these in-service programs has been influenced by the research on effective professional development, as all of the training designs were strikingly similar and included the necessary components for acquisition of skills. The failure of many programs to provide coaching, then, likely does not represent a denial of its importance but rather the difficulty of providing ongoing coaching to practitioners.

However, the necessity of coaching and supervision cannot be overlooked; coaching for application of skills to the classroom has an average effect size of 1.3 (Showers et al., 1987). Thus, it is essential that in-service consultation training programs find the means to provide coaching, as has been done within the Instructional Consultation model through on-site facilitators and e-mail communication. This also necessitates an understanding of effective techniques of coaching or supervision, which are considered below.

Consultation Training: Outcomes

Graduate-level consultation training outcomes

Much of the research on the outcomes of consultation training focused on skill acquisition, although a few studies also examined students' experiences of training more qualitatively. Again, behavioral

consultation researchers have conducted the majority of studies. These studies typically involved audio/ videotaping trainees' simulated and real consultation interviews before, during, and after training, and measuring the extent to which they achieved the specified objectives for each stage. For example, Kratochwill et al. (1989) conducted three experiments in which seven students and two practitioners received training in behavioral consultation using the competency-based model (minus video demonstrations) and then completed a series of consultation interviews. The study involved a multiple baseline design with sequential replications and used lists of criterion objectives for PII, PAI, and TEI to evaluate performance. Results indicated that the students met the 80% criterion for all of the behavioral consultation objectives and demonstrated a marked increase in their use of the objectives from baseline to post-training. However, the performance of individual students varied greatly, and only the experienced school psychologists were able to apply their skills in actual consultation interviews.

A similar set of experiments was conducted by Kratochwill et al. (1991). Here the participants again received competency-based training (including the video model) in the behavioral consultation objectives, and were evaluated on a series of consultation interviews using a multiple baseline design with sequential replications. Overall, results were more consistently positive in this study: graduate students' achievement of criterion objectives improved from below criterion at baseline to the criterion level during training, and maintained that level following training and in contact with an actual case. The participants indicated moderate to high satisfaction with training, and consultees' ratings on the Consultation Effectiveness Form were also moderate to very high. Sheridan (1992) replicated and expanded upon this research by evaluating student outcomes as well.

Similar to Kratochwill et al. (1991), she found that five graduate students' achievement of objectives improved to the criterion level during training and was maintained at that level, and consultees indicated high satisfaction. In addition, for the three cases in which intervention evaluation data were available, the referred students made progress. It is interesting to speculate on the more positive outcomes of training achieved by Kratochwill et al. (1991) and Sheridan (1992) than by Kratochwill et al. (1989), and to consider whether this reflects the development of greater sophistication with the training techniques or if it is due to the inclusion of demonstration as a component of training in the latter two studies. Overall, the research results indicate that it is possible to teach graduate students to use interview scripts to attain specific objectives during simulated and actual behavioral consultation cases.

Two additional studies used ratings of participants' skills to measure consultation competencies following training in hybrid consultation models. Carlson and Tombari (1986) trained graduate students in the conceptual foundations and skills of mental health, organizational, and behavioral consultation, using the didactic, lab, field experience, and supervision framework. Following training, participants were asked to rate their skill level and skill improvement on 30 consultation skills. The results demonstrated that graduate students rated themselves positively for 27 of the 30 skills. They reported a marked gain in the skills of explaining the consultation relationship, clarifying issues, understanding the stages of consultation, and knowledge of the mental health model; and they reported some progress in identifying alternative resources, ethics, and group process interventions. In a similar study, Conoley (1981) trained graduate students in four models of consultation using didactic course work, lab exercises, field

experience, and supervision. Trained students and the students' field-based supervisors were asked to rate the students' skills, and these were compared to similar ratings obtained for untrained students. The trained students' and their supervisors' ratings ranged from moderate (3.68 out of 5) for dealing with territoriality issues, to high (4.41) for meeting knowledge gaps and moving beyond the student role. The ratings for the trained students were generally higher than those for the untrained students, which ranged from 2.35 to 4.5. Trained students were also asked to rate the effectiveness of the training strategies; they found the didactic activities, role plays, and supervision to be most helpful, and the entry paper, field-university supervisor communication, guest speakers, and logs to be the least beneficial.

Finally, one study explored graduate students' experiences in learning to become problem-solving consultants. Henning-Stout (1999) used ethnography to analyze eight students' logs that were written during their course work and field experiences in consultation. Three themes emerged from the students' writing: application of consultation procedures; awareness of professional perspectives; and attention to the consultation relationship. In addition, she reported that the students were able to follow the problem-solving stages, but they required feedback to identify the stage of problem solving. Furthermore, they were able to apply techniques learned from counseling, such as modeling and reframing, to facilitate the consultation relationship.

In sum, there is evidence that consultation skills, particularly within the behavioral consultation model, can be learned and applied following comprehensive graduate-level training. The research on pre-service training of other consultation models is also promising, although it is more descriptive and less extensive. In general, it appears

that there are indeed effective graduate-level training formats available, which incorporate didactic and lab activities, fieldwork and supervision components. However, these have yet to be adopted by many school psychology training programs, according to the surveys reviewed earlier (Anton-LaHart & Rosenfield, in press; Guest, 2000), which suggested that most school psychologists receive only one semester of course work and little supervision. While this state of affairs argues for changes to school psychology programs to adopt successful training practices, it also suggests the need for effective in-service training to meet the needs until such graduate-level training reform can be accomplished.

In-service training outcomes. Studies of in-service consultation training have examined outcomes such as participant ratings of training, knowledge gain, and skill acquisition. Once again, behavioral consultation researchers have conducted the largest number and most rigorous studies over a number of years. As early as 1971, Goodwin and colleagues trained 112 school psychologists in behavioral analysis and modification, as a precursor to behavioral consultation, using microconsultation techniques. This eight-week training involved demonstrations using live models, discussion and integration of skills, and practice with feedback until the criterion level was obtained. Participants were observed during a simulated consultation session before, immediately after, and two months after training. It was found that the microconsultation group improved in behavioral responding, interview structure, and environmental assessment to a greater extent than the control group did.

Soon thereafter, Bergan et al. (1973) conducted a four-week workshop using lecture, discussion, role play, and feedback, to train 11 school psychologists in behavioral

consultation. Supervised practice was provided for one year following the training. The results were impressive: participants demonstrated a significant increase in their knowledge of behavioral consultation principles following training and accomplished the specific objectives of each consultation stage. More recently, McDougall et al. (1988) conducted a four-week workshop using similar techniques (but without supervised practice) to train 67 related services personnel in behavioral consultation. Based on analyses of 16 participants' audiotapes of PII before and after training, the authors reported significant increases in five out of eight behavioral objectives on the PII objectives checklist, and a significant increase in consultant statements and decrease in consultee statements on the Consultation Analysis Record. This suggests that the training was partially effective, as only some of the desired outcomes were obtained. This may have been due to the relatively short length of the training and the lack of supervised practice.

As part of a state-wide effort to change school psychologists' service delivery (Reliable Educational Assessment and Intervention Model: RE-AIM; Grimes & Reschly, 1986, in Reschly, 1993; Reschly & Grimes, 1991), school psychologists were trained in behavioral consultation interview skills, referral-question-consultation decision making, and curriculum-based assessment. Training involved a two-day workshop for each module, again including a manual, lecture, discussion, modeling, and role plays with feedback. Participants demonstrated a significant increase in knowledge on a pre-post objective test, and a statistically significant increase in their use of seven of eight PII objectives (all but summarizing statements) based on audiotapes of PII before and after the workshop. In terms of participants' use of consultation upon returning to their school,

75% of school psychologists in a supportive school environment were able to complete one consultation case as opposed to only 10% in a non-supportive school environment. The authors reported that, while school psychologists had developed skills through training, this was not sufficient to change their model of service delivery in the schools (Reschly, 1993).

Instructional Consultation (IC) offers one of the most comprehensive in-service consultation training packages that incorporates all of the recommended components of effective professional development; however, it has not as yet been rigorously researched. IC training consists of a one-week/ 20-hour workshop in which presentations of theory, live and video demonstrations, role play practice and reflection opportunities, and feedback are provided to develop participants' knowledge and skills in the competencies of IC. Following the initial training, participants engage in an IC training case and receive weekly coaching from an experienced instructional consultant. Coaching involves identifying the critical skills for the stage of consultation, selecting a Focus Skill, observing the consultant-trainee's performance (often through audiotapes and documentation), and providing opportunities for reflection and feedback on the Focus Skill. This process continues through the completion of the training case. In a recent adaptation to the coaching process, coaches and consultant-trainees use e-mail to communicate on a weekly basis rather than meeting face-to-face; this was the format of coaching used in the present study.

To date, over 700 school personnel, including school psychologists, teachers, special educators, and other related service providers, have attended initial IC training (see Gravois, 1996; Coffey, 2000); and it is estimated that many of them have received

coaching. This certainly represents one of the most comprehensive efforts to incorporate all of the components required for skill application into consultation in-service training on a large scale. Evaluation of the training and coaching has primarily consisted of participant ratings of the training effectiveness, which have been consistently high for relevance of training, preparedness of trainer, and overall effectiveness of training (see Gravois, 1995, 1996, 1997; Vail, 1997, 1998, 1999; Coffey, 2000). In addition, two measures of consultants' Problem Identification skills have been developed for use with simulated or real Problem Identification meetings; however, these have not been used to measure training effectiveness at this time. Thus, there is little information available about the effectiveness of the comprehensive IC training for preparing practitioners to be instructional consultants in their schools.

Given the demand for consultation service and its low level of use in schools today (Reschly, 2000), there is a need to provide and evaluate in-service training opportunities for consultants. The current study involved a preliminary investigation of the effectiveness of the e-mail coaching portion of the IC in-service training, by obtaining and analyzing participant ratings of skill development for a group of school-based practitioners.

Supervision and Coaching

Supervision is defined as an intensive, interpersonally focused relationship in which the supervisor facilitates the development of competence in the trainee (Stoltenberg, 1993). The theory and practice of supervision have received a fair amount of research attention within the teacher and counselor education fields, while there is relatively little attention to supervision within the consultation literature. Consequently,

this review includes the literature on counselor and teacher supervision. There is some precedent for equating counseling and teaching supervision, as both fields' preparation involves internship and supervised practice (Brown, 1985). However, the assumption that models of counseling supervision apply to consultation may be erroneous, as these models cannot account for the complexity of consultation (Brown, 1985). Nevertheless, given the dearth of information regarding consultation supervision, it is necessary to glean some information from related fields.

Supervisory Models

Counselor supervision

Traditionally, three roles have been ascribed to counselor supervisors: teacher, to shape cognitive growth; counselor, to provide support and encourage insight; and consultant, to share and develop personal perspectives (Kagan, 1988). Models of counselor supervision vary in the extent to which they emphasize each of these roles, with more recent models recognizing that all roles may be appropriate at different times during supervision.

In early models of counselor supervision, supervision was viewed as a parallel process to counseling, and the different counseling theories were adopted as approaches to supervision (Stoltenberg, 1993). For example, Leddick and Bernard's (1980) review of early supervision models included Ekstein and Wallerstein's dynamic theory, Rogers' facilitative theory based on person-centered therapy, Lazarus' behavioral theory, and Ivey's skills training. Dynamic theory outlined stages of supervision: opening, when strengths and needs are assessed; mid game, which is the working stage; and end game, when independence is encouraged. Facilitative theory emphasized the supervisor's role in modeling and providing support and encouragement. In behavioral theory, demonstration

was supplemented by role plays and behavioral rehearsal. Finally, in skills training, supervisors used goal setting, modeling, and direct instruction to facilitate supervisees' skill development. Delaney combined the facilitative and behavioral approaches into a five-stage process: creating a secure environment; establishing a facilitative relationship; setting goals; modeling; and providing direct instruction (Leddick & Bernard, 1980). Although there were differences in the techniques emphasized in these models, the consistencies included placing a high value on the supervisor-trainee relationship and viewing supervision as a learning situation with the counselor in a teaching role (Leddick & Bernard, 1980).

Recent models of counselor supervision rely more heavily on supervisees' self-discovery and reflection and less on supervisors' instruction and modeling. One example is Ward and House's (1998) reflective model of counselor supervision, which involves reflecting on the moment of action when situations do not present themselves as given and clinical direction must be construed from uncertain events. Supervision provides a context for the student to explore these dissonant experiences, reframe them, and develop problem-solving interventions, which helps to foster higher-order thinking. The phases include: (1) context orientation; (2) establishing trust; (3) conceptual development; and (4) clinical independence. While the phases of supervision appear similar to those outlined in earlier models, the role of the supervisor is to help the trainee to problem solve the counseling dilemmas rather than to teach. The supervisor uses a reflective dialogue to accomplish this; the focus is on process-oriented observations rather than content, tentative conflicting explanations to develop the trainee's comfort with inconsistency, and self-assessment. The reflective questions asked include: what is your

hypothesis for explaining the client's needs; do you have the skills to meet these needs; and what skills do you need (Ward & House, 1998)?

Several recent models of counselor supervision attempt to incorporate the developmental aspects of learning into supervision. For example, in Stoltenberg and Delworth's Integrated Developmental Model (Stoltenberg, 1993), three levels of development are specified that require different supervisory interventions. The developmental levels include entry level, where supervisees demonstrate high motivation due to anxiety and dependence on the supervisor; the trial and tribulation level, when motivation and autonomy fluctuate depending on experiences of success or failure; and challenge and growth (integration), where the supervisee demonstrates an awareness of strengths and weaknesses that contributes to constant motivation and increased autonomy. The supervisor's role is to provide enough support to enable learning but enough challenge to stimulate growth, which requires different actions at different levels of supervisee development. At the entry level, supervisors should provide mostly prescriptive interventions—providing information, modeling, role playing—as well as facilitative interventions in the form of support and positive feedback. As the supervisee moves into trial and tribulation, the supervisor can use more confrontative techniques during periods of confidence to expand competence, conceptual interventions to tie together theory and practice, and catalytic interventions or process comments to increase awareness of impact on the other party. Finally, during the integration stage, the supervisor provides mainly conceptual and facilitative interventions, as the supervisee is able to assess her own skills and target areas for growth. In this model, supervisors shift

roles, from didactic in the beginning toward consultative as supervisees achieve greater skill and experience, with the provision of support occurring throughout.

Teacher supervision. Models of teacher supervision have also ascribed three roles to the supervisor: directive (teacher), non-directive (counselor), and collaborative (consultant). These roles are reflected in the three major paradigms of teacher supervision: positivist, phenomenologist, and critical theorist (May & Zimpher, 1986). The positivist approach holds that there is a natural reality that needs to be discovered through scientific methods and learned through practice. Supervision is behaviorist in nature, concerned with effectiveness and efficiency. The phenomenologist approach also maintains that there is a natural reality but places more emphasis on social constructions of reality. Supervision is concerned with how supervisees make sense of their field experience, and supervisors function to nurture and facilitate growth. The critical theorist paradigm aims to make the world a better place by questioning all that is taken for granted. The supervisor and teacher collaboratively engage in ethnographic inquiry and discussion to question and test current practices and to change what is not working.

Although several paradigms for teacher supervision exist, the clinical supervision model has dominated the practice of teacher supervision. In this model, supervisors and teachers meet for a pre-observation conference to outline the focus of observation, supervisors conduct a classroom observation of the teacher, and supervisors and teachers meet for a post-observation conference to review the supervisor's feedback (Sparks & Loucks-Horsley, 1990). As the supervisor typically holds an administrative position, the observation and feedback are often conducted from an evaluative, positivist perspective rather than a collaborative stance (Sparks & Loucks-Horsley, 1990). Due to the

evaluative nature and the relative ineffectiveness of the process for producing actual changes in teaching, alternative conceptions of teacher "supervision" have emerged.

The practice of peer or expert coaching, while bearing surface similarities, is conceptually quite different from clinical supervision. Peer or expert coaching involves a pre-observation conference, during which the coach and teacher together identify areas to observe and develop; an observation to collect the data; and a post-observation conference, to analyze the data collaboratively and share objective feedback and ideas about performance (Sparks & Loucks-Horsley, 1990). Although the steps are similar, the role of the supervisor has shifted from an expert evaluator to a collaborator, within the phenomenologist or critical theorist perspective. Furthermore, the concept of supervisor disappears in this model, to be replaced by "coach," who can be either a technical expert or a peer (Showers & Joyce, 1996). Finally, in some recent models of teacher development, the practice of team coaching has emerged, which involves groups of teachers working together to resolve a teaching dilemma through collaborative planning and demonstrations of their teaching. Here, the person teaching rather than the person observing is the coach, and so the practice of modeling has returned within the context of collaborative planning (Showers & Joyce, 1996). Similar to the counselor supervision literature, it is clear that conceptions of "supervision" have shifted in the teacher education literature, toward a process that involves teachers in reflection and collaborative planning.

Consultation supervision. Compared to counselor and teacher supervision, there is relatively little information available on consultation supervision; but attention to consultation supervision in the literature is increasing. For example, a recent publication

on school psychology supervision devoted one chapter to techniques for the supervision of indirect services (Harvey & Struzziero, 2000). Specific techniques listed include: developing a supervision plan to monitor the results of actions; facilitating the use of effective communication skills; interacting directly with the consultee and client when working with novice consultants; modifying the supervision to fit the consultant's development; keeping records; using computer-mediated communication to supplement supervision; and encouraging peer support.

Despite this increased attention, there are still few descriptions of consultation supervision models. Only three were found in the current review. One detailed the temporal stages of supervision (Brown, 1985); another outlined the supervision process in reference to the consultation stages (Conoley, 1981); and the third provided a description of consultation supervision as coaching (Schon, 1987).

In the temporal view, supervision stages include entry– defining the relationship and setting expectations; early supervision– building the relationship, focusing on skills, encouraging personal evaluation, and emphasizing concepts; middle supervision– focusing on judgmental competencies, structuring learning to increase self-efficacy, and exploring environmental variables; late supervision– providing feedback on the accuracy of self-assessments and collecting data on the outcomes of supervision; and termination/ evaluation of strengths and needs (Brown, 1985). This model describes the topics that are salient at the different stages of supervision, similar to dynamic theory and the Integrated Developmental model (Stoltenberg, 1993).

Conoley (1981) provided another analysis of the issues that are relevant at different stages, but with reference to the stages of consultation rather than the

supervision relationship. During entry, the focus of supervision is on providing information about roles, raising awareness about the importance of the consultation relationship, behavioral rehearsal, and feedback on interpersonal style. In problem identification, the emphasis is on training skillful interviewing, by using case history or cognitive modeling to teach how to conceptualize problems and to identify environmental variables. During goal setting, the focus is on using simulations and case histories to set realistic goals and to identify and address resistance. When designing and implementing strategies, supervision is concerned with developing technical knowledge about the effectiveness and acceptability of interventions by discussing interventions as a group; and during evaluation and termination the focus is on using case studies to prepare a systematic evaluation of the process. This framework provides information about the types of supervisor behaviors that are used to address specific issues at each stage of consultation. The supervisor functions primarily as a teacher, as was seen in early conceptualizations of counselor and teacher supervision.

A more recent view of consultation "supervision" demonstrates the familiar shift toward reflection rather than teaching. Schon (1987) suggested that consultation is an art, and learning artistry can only be accomplished through reflective practice. Reflective practice involves learning by doing, coaching rather than teaching, and a dialogue of reciprocal reflection. The process of coaching consists of an interweaving of behaviors, such that the coach shows and tells, the student listens and imitates, and the coach assesses the student's understanding and applies new explanations or demonstrations. The three methods of coaching include: follow me, or modeling reflection in action for the student so that she or he may imitate, which is most appropriate for learning new

concepts; joint experimentation, or collaborative inquiry in which the student chooses the focus of development and jointly experiments with the coach on how to improve, which is most appropriate for refining skills; and hall of mirrors, in which the coach and student shift perspectives to create a parallel between practice and practicum (Schon, 1987).

Within this model, there is certainly a shift toward a more collaborative coaching role for the "supervisor," but there is also recognition that directive instructions and modeling may be necessary in the early stages while collaborative problem solving is more appropriate as skills develop. This perspective is echoed by Stoltenberg (1993) in his adaptation of the Integrated Developmental Model to consultation supervision. Again, Stoltenberg (1993) held that supervisors should apply specific interventions depending on the trainees' level of development, using prescriptive interventions and a teaching role with novice consultants, and gradually shifting toward conceptual interventions and a consultative approach with skilled consultants.

Summary. In the literature on counselor, teacher, and consultant supervision, it is clear that supervisors are viewed as having multiple roles as they attempt to help the trainee learn the craft. Early theories focused primarily on the supervisor behaviors of teaching and feedback, while more recent theories have accorded more importance to reflection and collaborative problem solving. Some theorists hold that there is a developmental process to supervision, such that beginners may require more directive teaching and modeling behaviors whereas experienced trainees may benefit more from reflective questioning (Stoltenberg, 1993). Others seem to maintain that reflection is critical throughout all stages of supervision and can be incorporated into teaching and modeling as well as joint problem solving (Schon, 1987). Which behaviors supervisors

demonstrate in practice, whether these change over the course of supervision, and which are most effective are questions that must be addressed through empirical study, and so the review now turns to a discussion of research on supervision.

Research on Supervision

Supervisor behaviors

A fair amount of research has been conducted on supervisors' behaviors during supervision. Most of these studies have employed instruments designed for examining counseling interactions, since there are few measures of supervisor behaviors available. For example, Holloway and Wampold (1983) adapted the Blumberg Interaction Analysis to examine 9 supervisors' interactions with 30 counselor trainees. They found that the three most frequent types of behaviors included: trainees giving information (33%), supervisors giving suggestions and evaluations (18%), and supervisors giving/asking for clarification (11%). The least frequent types of interactions for both supervisors and trainees included negative social-emotional behaviors (less than 1%) and a request for opinions or suggestions (less than 5%).

Another study of counselor supervisors and trainees yielded similar findings. Four supervisors' behaviors were recorded during supervision and coded using the Counselor Verbal Response Modes Category system (Borders, 1991). The results indicated that over half of the supervisors' responses were directives, including information, approval, and direct guidance. Furthermore, providing information was the specific communication skill used most frequently, accounting for 40% of the total responses. While there were some individual variations in responses, the data from these two studies suggest that supervisors used directive comments such as suggestions and information more than they used reflective communication.

A similar pattern was noted in the research on teacher supervision. In a study of the characteristics of rational discourse during teacher clinical supervision, Zeichner and Liston (1984) developed a coding system to evaluate 7 supervisors' and 14 student teachers' conversations during post-observation conferences. The coding system included four dimensions of logical discourse: factual discourse, including information and meanings; prudential discourse, including suggestions and evaluations; justificatory discourse, including rationales for actions; and critical discourse, or analysis of these rationales. The coding system also included six substantive dimensions: goals, curriculum materials, procedural methods, lesson-general, students, and context. The results indicated that factual discourse dominated the post-observation conference (63%). Supervisors also engaged in prudential (25%) and justificatory (11%) discourse, but almost no critical discourse (.6%). In terms of substantive dimensions, procedures and students were discussed most frequently (34% and 27%, respectively) and goals the least frequently (4%). Finally, another study that analyzed clinical supervision conferences also found that teacher supervisors dominated the conferences and provided mostly prescriptive feedback, with no invitation to analyze or problem solve around the information (Zimpher, deVoss, & Nott, 1980).

While this research suggests that supervisors tend to adopt a didactic and directive role, there are several variables that may affect supervisors' behavior that must be considered. First, supervisors' behavior may shift according to trainees' level of experience. In their review of changes in supervisors' behaviors as counselors gain experience, Stoltenberg et al. (1994) reported research support for the notion that supervisors are more prescriptive with beginning trainees and become more conceptual

and consultative as trainees gain experience. For example, the results of a survey of 87 supervisors and 77 trainees indicated that supervisors perceived themselves as changing their behavior in the manner described by Stoltenberg, although trainees were less aware of these changes (Krause & Allen, 1988). Thus, there does appear to be tentative support for the notion that supervisor behaviors change with trainee level of experience. Since all of the studies of supervisor behavior discussed above were conducted with novice counselors and teachers, it is not surprising that supervisors demonstrated a didactic and prescriptive role.

Second, supervisor behaviors may also vary according to supervisors' levels of experience. Studies of the differences between novice and experienced supervisors' behaviors have yielded conflicting results; some have found no distinctions (Goodyear & Robyak, 1982) while others have found differences. Specifically, experienced supervisors tended to engage in more pre-planning (Stone, 1980) and to spend more time discussing the counseling relationship and making self-referent statements (Marikis, Russell, & Dell, 1985). Novice supervisors, on the other hand, provided more approval and affectively-based comments during supervision (Borders, 1991). Other factors that appeared to influence supervisors' behaviors in the Borders study included their theoretical orientation (humanistic versus cognitive-behavioral) and approach. Thus, the author hypothesized that supervisor behaviors are jointly determined by the interplay between theoretical orientation, approach, and experience levels.

While there is little research of this kind on consultation supervision, Henning-Stout's (1999) study of students' experiences of learning consultation skills also examined the supervisor's written feedback provided to students' logs. The author found

that the comments changed from directive statements to validations as the students' skills increased, suggesting that this supervisor changed her behavior depending on trainees' needs.

Overall, the research on supervisor behaviors suggests that counselor and teacher supervisors tend to provide information and suggestions frequently in their interactions with trainees. Many theorists believe that these behaviors are most common when working with novices and that they shift to more collaborative problem solving and reflective questioning as trainees gain experience. It is not known whether consultation supervisors demonstrate a similar pattern of behavior, as there is at present little information on behaviors during consultation supervision. This study addressed this topic by examining the themes and patterns of coaches' responses when coaching consultation skills by e-mail.

Preferences for supervisor behaviors. While many supervisory interactions appear to be dominated by giving and receiving information, at least in the early stages, the question of which supervisor behaviors are most beneficial for trainees remains. At present this question has been explored mostly in terms of supervisees' preferences for supervisor behaviors. In the study by Holloway and Wampold (1983) discussed earlier, when asked what types of behaviors they preferred, both supervisors and trainees indicated a dislike for overtly positive statements and rated asking the trainee to elaborate on his or her own ideas as most valuable. However, the latter behavior occurred infrequently and was often followed by silence when it was used.

Preferences for supervisor behaviors may vary by experience and conceptual level as well. For instance, novice counselors indicate a desire for support, structure, and

encouragement, whereas intern counselors want to focus on personal issues and higher order skills (Holloway, 1992; Stoltenberg et al., 1994). A similar finding was reported in the literature on teacher supervision: beginning teachers prefer direct, concrete advice while experienced teachers prefer analyzing and solving work problems (Copeland, 1982). Thus, it appears there is support, at least in terms of trainee preferences, for the practice of providing more directive supervision early and more collaborative support with increasing trainee experience, as was recommended in the literature discussed above.

Other research has focused on trainees' conceptual level as a variable in supervision preferences. Conceptual level refers to one's ability to perceive and integrate information. Trainees with a low conceptual level prefer more structured feedback, whereas trainees with a high conceptual level are comfortable with less structure and more critical feedback (Holloway & Wampold, 1986). Thus, it appears that the didactic supervisor role may be preferred by some supervisees, specifically those who are inexperienced or who have a low conceptual level, while experienced trainees and those with high conceptual levels desire a more reflective problem-solving approach.

However, preference does not indicate which supervisor behaviors are most beneficial to skill development and application, and this information is crucial to increasing the effectiveness of supervision. The current study examined this variable by asking consultant-trainees to indicate which coaching responses they found most beneficial to their skill development, and by qualitatively analyzing the inter-relationships between specific coaching styles and consultant-trainees' reported skill development, as a preliminary investigation of effective coaching responses.

Diversity. A few studies have been conducted to examine issues of diversity in supervision, but this topic is relatively new and needs additional research. When examining supervisors and trainees in cross-race dyads, McRoy, Freeman, Logan, and Blackmon (1986) found that both supervisors and trainees expressed difficulties with the relationship, including prejudice, a lack of knowledge, and defensiveness. However, in most cases this was not indicated to create an actual problem with carrying out the supervision. In another study, Cook and Helms (1988) surveyed visible racial/ethnic group trainees. They found that these trainees' perceptions of how much their supervisors liked them varied by racial/ethnic group, and that perceptions of liking and interest contributed to increased satisfaction. Thus, race is another variable in supervision that may impact on the relationship

Gender has also been examined as a variable in supervision, although results are somewhat conflicting. One study found that same gender supervisor-trainee pairs viewed supervision more positively than mixed gender pairs (Behling, Curtis, & Foster, 1988). However, Nelson and Holloway (1990) found no support for the concept of gender matching and instead suggested that all supervisors treat male and female trainees differently. Again, additional research is needed to explore gender issues in supervision.

Supervision concerns. In her study of graduate-level consultation training, Conoley (1981) surveyed supervisors and students for their concerns with the supervision process. Supervisors reported concerns with their role, specifically how to model consultation and give non-evaluative feedback while meeting supervisory demands for maintaining standards of performance; with the exclusion of process during supervision, owing to students' low level of process awareness; with students' tendencies to give each

other advice rather than to problem solve during group supervision; and with authority issues. Students' concerns centered on the use of supervision time, with a preference for didactic activities rather than personal growth experiences; giving and receiving personal and professional feedback, as they lacked these skills; dual supervisory inputs from field and university supervisors; and emergent versus structured time. This research provides a closer look at the process of supervision and reveals a potential explanation for the predominance of advice-giving to novice trainees, namely students' greater comfort and skill with this than with reflective feedback. This remains an important area of exploration for future study.

Supervision outcomes. With regard to the supervision context, Lambert and Ogles (1997) found that a therapeutic climate is not required for the development of skills, but the trainee must see the supervisor as trying to help. However, the quality of the supervision relationship does appear to impact supervisors' outcome evaluations. It is possible that both a good relationship and a positive evaluation are affected by a third variable, such as perceptions of trainee competence (Goodyear & Bernard, 1998).

Few studies were found that evaluated the outcomes of supervision directly. Several studies have examined variables related to supervision outcomes and have found that factors such as trainee high self esteem, trainee high conceptual level, and a good supervision relationship all contributed to more positive supervision evaluations and outcomes (see Goodyear & Bernard, 1998; Kagan, 1988). In addition, many of the studies described in the consultation training section above found that supervision paired with training was effective for increasing consultant skills (Bergan et al., 1973; Carlson & Tombari, 1986; Conoley, 1981; Kratochwill et al., 1991). Within the teacher education

literature, Showers et al. (1987) cited several studies that found that learning and transfer of skills was maximized when training was followed by coaching. Thus, there is some evidence that supervision or coaching can be effective for increasing skills in teaching and consultation, but more information is needed to know how to do this most effectively.

A recent study that compared peer coaching to traditional supervision provides the most definitive information on effective supervision practices to date (Bowman & McCormick, 2000). In this study, 32 pre-service teachers participated in a four-week field placement and were randomly assigned to either an experimental peer coaching group or to a control group involving traditional supervision. Peer coaching involved having pairs of students regularly observe each other teaching and engage in an immediate post-conference that was characterized by collaborative reflection on the lesson, suggestions, and support. Traditional supervision consisted of a supervisor meeting with the student teacher twelve times to provide feedback, following observations (four times) or based upon the student's descriptions of teaching experiences. The outcomes examined included the amount of pedagogical reasoning that occurred in supervision/coaching, the students' clarity of instructional skills, and the students' levels of satisfaction. The results indicated that the students who participated in peer coaching demonstrated more pedagogical reasoning and greater clarity of instruction, as well as higher satisfaction in several areas, than the students who received traditional supervision. The study findings are consistent with the theoretical literature on reflective supervision practices and with the research on supervisee preferences for collaborative supervisor behaviors. This

suggests that, in some contexts, collegial peer coaching may be more effective than expert supervision for helping trainees to develop and apply skills.

Future Research Needs

In 1980, Leddick and Bernard indicated that what was missing from counselor supervision research were studies of the pairing of appropriate feedback to level of competence, of the timing of feedback to trainee needs, and of methods of feedback. Although a fair amount of research on types of supervisor responses, trainee preferences, and individual difference variables affecting supervision has been conducted since that time, there is still relatively little information on what types of responses are most helpful to trainees; and in the consultation literature, there is no information about supervisor behaviors at all. Kagan (1988) claimed that what is needed is research to validate the above findings using audiotapes/transcripts of supervisory conferences to describe the process in objective terms, while Schon (1987) called for a study of the experience of learning by doing and the artistry of good coaching. This study attempted to do both: to utilize written (e-mail) feedback provided by coaches to practitioners learning IC to study the artistry of coaching. In addition to exploring the types of responses made by coaches, this study also examines which types of responses consultant-trainees found most helpful to their development of consultation skills. This information contributes to the knowledge base on effective Instructional Consultation coaching behaviors.

E-mail Applications for Training and Coaching

E-mail Learning

E-mail is a type of computer-mediated communication, or a tele-communication technique that employs the computer to facilitate communication. E-mail is

asynchronous, meaning that communication between the sender and receiver takes place at different times; and it is quick and accessible (Kruger & Struzziero, 1997). For these reasons, its use in conjunction with traditional training techniques is believed to benefit instruction and enhance learning outcomes.

One way in which e-mail enhances learning is that it allows for greater learner-centered instruction than is possible in traditional training venues (Mehotra, 1998; Van Gorp, 1998). Using e-mail, extended communication can be focused on one individual's needs, which can benefit her or his learning. In fact, Maxwell and McCain (1995) found that students using e-mail to communicate with instructors received more individual attention and guidance with projects than did students interacting with instructors face-to-face. Furthermore, text-based communication provides students with greater opportunities to reflect, which may also increase their learning (Myric & Sabell, 1995; Spitzer & Wedding, 1995; Van Gorp, 1998). A study of e-mail communications between students and professors revealed greater collaboration and joint construction of meaning as they discussed issues of teaching, application, and knowledge (Schlagal, Trathen, & Blanton, 1996). However, Van Gorp (1998) emphasized that the learning outcomes of e-mail and computer-mediated communication remain unclear, and so any claims of greater learning benefits must be considered tentative.

In addition to the lack of research to substantiate the learning benefits of e-mail, there are also differences in communication via e-mail that may impact on learning, which must be taken into consideration. The primary limitation of e-mail communication is the lack of non-verbal cues, which contribute a great deal to the process of face-to-face communication. One consequence is that this decreases attentiveness to the social context

and may result in uninhibited behavior (Bordia, 1997). Furthermore, the lack of non-verbal cues and the diminished social context may lead to poorer understanding of the meaning of the communication, especially with complex messages (Strauss & McGrath, 1994). Consequently, while e-mail may certainly supplement and benefit learning, communication by e-mail may also introduce difficulties with comprehension that can detract from learning. Thus, when providing coaching via e-mail, as was done in the current study, it is critical to evaluate both the viability of using e-mail as a tool for coaching communications and the impact that this mode of communication may have had upon the coaching process.

E-mail Consultation and Peer Coaching

Difficulty in finding a common time to meet has been cited as a persistent barrier to both consultation (Costenbader et al., 1992) and supervision (Kruger & Struzziero, 1997). It is no surprise then that e-mail's capability for timely interactions without time and place constraints is seen as a solution to the problem of time (Kruger & Struzziero, 1997; Kruger et al., 2001b). Furthermore, supervision by e-mail gives trainees access to people with expertise and to immediate feedback (Kruger & Struzziero, 1997; Mehotra, 1998). If the techniques of supervision can be applied via e-mail, then this opens up an avenue for providing accessible supervision to large groups of people. However, Kruger et al. (2001b) pointed out that the range of supervisor behaviors is limited on e-mail technology, as it is possible only to provide feedback and conceptual information but not to observe or practice skills. Thus, it is important to examine what types of supervisor behaviors are actually used on e-mail, and whether these behaviors are perceived to be helpful and are effective for increasing the skills of trainees learning to consult.

Research on e-mail consultation and support. The Global School Psychology Network (GSPN; Kruger & Struzziero, 1997) was established to enhance interaction among school psychologists by using e-mail to supplement face-to-face communication. Since its inception, this network has been used to facilitate communication during consultation, training, and peer support activities; and four studies have been conducted to examine its application for these purposes. Two of the studies explored the content of e-mail communications between participants, using a version of Cherniss' system for observing supervisors' behaviors adapted to e-mail (Kruger et al., 1996; Kruger et al., 2001b). The content categories included: observation-based information—asking for or sharing factual information; suggestions—providing or requesting direction for action; conceptual information—asking for or sharing information about a concept or an idea; personal information—communicating a personal feeling or experience; support—messages intended to build a healthy social climate; specific feedback—evaluation of specific activities performed; and group and global feedback.

In the first of these studies, Kruger et al. (1996) examined the use of e-mail to provide follow-up training in team problem solving to seven school personnel. The seven participants first attended a three-day training in e-mail use, team development, and problem solving. The team then elected a linchpin expert to serve as the liaison between the trainees and the trainers; all trainee questions and trainer responses were e-mailed to and summarized by the linchpin expert. All e-mail messages were saved on a disk and analyzed for their content. Of the 134 messages sent, 76% contained observation-based information, 54% suggestions, 47% conceptual information, 43% personal information, 37% support, 34% specific feedback, 22% group feedback, and 10% global feedback. All

trainee participants were then asked to rate how much each message contributed to their expertise in team problem solving and the relative importance of the face-to-face training and the computer-mediated communication. Results indicated that participants perceived an average of 55% of the messages to be helpful. Only two content categories were identified as relating to the development of problem-solving expertise: specific feedback and conceptual information. Face-to-face training was rated as more helpful than the e-mail communications; but within both, the linchpin expert was viewed as most important to skill development.

In the second of these studies, Kruger et al. (2001b) evaluated consultants' and teachers' use and perceptions of e-mail as a supplement to their consultation meetings. Four pairs of school psychologist consultants and teacher consultees were trained in an e-mail system (First Class) to facilitate their communication in-between face-to-face meetings. During the next 14 weeks, the four pairs sent 124 messages with 1749 remarks. The content of these messages included: 63.7% observation-based information, 11% conceptual information, 8.6% personal information, 6.5% suggestions, 6% social support, 2.9% evaluations of others, and 1.3% feedback. Teachers perceived that the messages contributed both to increasing their knowledge of working with students and to decreasing their feelings of isolation, but that the messages contributed more to decreased isolation than to increased knowledge. When asked what types of messages contributed most to each of these outcomes, only conceptual information was significantly related to teachers' perceptions that messages increased their knowledge; but three categories—social support, feedback, and conceptual information—were related to teachers' perceptions that the messages had decreased isolation.

These two studies are important for several reasons. First, they indicated that individuals providing support by e-mail used observation-based information and suggestions most frequently, similar to supervisors' behaviors during face-to-face supervision. Second, they demonstrated that the use of e-mail for support contributed to participants' perceptions of learning. Finally, they found that conceptual information and specific feedback were the response categories most related to perceptions of learning. These findings suggest that providing conceptual information and feedback via e-mail is not only possible but also potentially beneficial, which is an important area to explore for the e-mail coaching process as well.

The other two studies focused on participants' perceptions of whether they gained knowledge and felt supported by the Global School Psychology Network (GSPN). The third study explored participants' experiences with using a groupware program– Lotus Notes– to provide peer support during initial consultation cases (Kruger & Struzziero, 1997). Four school psychologists were trained in consultation and in the use of the Lotus Notes program for providing peer support. Two of the participants conducted consultation cases, and all four communicated via e-mail about the cases. Expectations for the project were assessed both before it began and after its conclusion. While pre-project expectations for reliable assistance, reassurance of worth, guidance, and planning and evaluating interventions were high (5.1-5.75 out of 7), post-project ratings exceeded them for all four areas (5.6-6.25).

To assess the contributions of the messages to their learning, participants were asked to review and rate all of the e-mail messages sent to them. The results indicated that they perceived 73.8% of the messages as contributing to their knowledge

development as a consultant, 75.2% to their knowledge of what advice to provide to other consultants, but only 29.1% to their feelings of competence as a consultant. Unfortunately, there was no analysis of what types of messages corresponded to each of these outcomes, but the results suggest that e-mail messages were more effective for increasing knowledge than feelings of competence. Finally, interviews with participants revealed positive aspects of the program to be: increased reflection on cases, decreased memory decay, accessible expertise, rapid feedback, little intrusion on time, convenience, and confidentiality. The negative aspects included: lack of availability of the server, project too short, insufficient training on the software, and difficulty with installation. Suggestions for improvement were to hold face-to-face meetings during the project, train participants how to manage social aspects of computer-mediated communication, make software simpler, provide a user manual, and provide on-line examples of data collection forms. In all, the use of e-mail groupware to provide peer support during consultation was perceived to be helpful for developing knowledge and feeling supported.

The final study examined the factors related to developing a sense of community among school psychologists using the GSPN (Kruger, Maital, Macklem, Shirberg, Burgess, Kalinsky, & Corcoran, 2001a). Here, 135 school psychology practitioners and graduate students participated in large group unstructured discussions and small group discussion boards on specific topics on the Internet. The school psychologists' participation and contributions to the discussion were monitored; and they were asked to complete a questionnaire regarding their sense of community, need fulfillment, perceived influence, and perceived safety while participating on the network. The responses for the 115 participants who completed the survey were above the mid-line for professional

development, social support, influence, and safety. Furthermore, the best predictors of the school psychologists' sense of community included their level of participation on the discussion board and their perceptions that the discussions met their needs for professional development and social support. This study expands upon the previous findings, by documenting that it is also possible to develop a sense of community on the Internet.

These studies demonstrate that the use of e-mail to provide consultation contact, follow-up training, and peer support can be effective for increasing knowledge and perceived support. Nevertheless, in one study e-mail was rated as less important to learning than face-to-face communication, and in another the participants remarked upon the complexities of using e-mail. This highlights the need to explore how the use of e-mail impacts upon the coaching process, which is the final question examined in this study.

Summary

The demand for consultation services is increasing, but many school psychologists continue to function within the traditional test-and-place model. The probable reasons for this state of affairs include a lack of adequate training and insufficient time. The development of effective and time-efficient training and coaching in consultation are critical to address these needs and to change the model of service delivery. The purpose of this study was to contribute to the knowledge base on effective consultation coaching by e-mail.

The literature on consultation training and supervision outlines a set of critical competencies for effective consultation practice and the components of training necessary

for developing and applying them. The training sequence involves didactic exercises, modeling, practice with feedback, and supervision or coaching for skill application. Supervision or coaching is widely acknowledged to be necessary for the effective application of complex skills, such as consultation, teaching, and counseling. In the areas of counselor and teacher education, research has been conducted to delineate models of supervision and document supervisor behaviors; but the literature on consultation supervision is less developed, with little research even on approaches to supervision or supervisor/coach behaviors. The current study attempted to build upon the existing research on supervision and to address this gap in the consultation literature, by providing a preliminary analysis of the themes that characterized coaches' e-mail communications with consultant-trainees. This study also investigated consultant-trainees' perceptions of the effectiveness of coaching overall and specific coaching responses in particular.

Providers of consultation and supervision have begun to recognize the benefits of using e-mail to supplement these processes as it offers a convenient means to work together. Research on on-line consultation, follow-up training, and peer support suggests that computer-mediated communication can be an effective tool for increasing knowledge and skills but that there are complexities to e-mail learning. Given that e-mail was used as the medium for coaching in the current study, the impact of e-mail on the consultation coaching process was also explored. In sum, this study extended the available research by examining if e-mail is a viable medium for providing follow-up coaching for the application of Instructional Consultation skills, which would be a time-efficient way to improve consultation training.

Chapter 3

METHODOLOGY

The purpose of this study was to evaluate an in-service training program in Instructional Consultation (IC) that involved the use of e-mail to provide coaching to school-based practitioners as they conducted their first IC case. Specifically, this study focused upon exploring the themes of the e-mail coaching responses, participants' perceptions of the effectiveness of the e-mail coaching for developing IC skills, and participants' perceptions of the viability of using e-mail to provide consultation coaching. This chapter includes a description of (1) the sample of coaches and consultant-trainees who participated in this study of e-mail coaching; (2) the instruments used to measure themes and perceptions; (3) the IC training and coaching process; and (4) the procedures for collecting and analyzing the data.

Participants

The participants in this study included the 30 consultant-trainees and 4 coaches who participated in e-mail coaching during the 2000-01 and 2001-02 school years and granted their informed consent for inclusion in the study. Consultant-trainees are school-based practitioners who attended an IC training workshop and took an IC training case on which they received e-mail coaching. During the 2000-01 and 2001-02 school years, 65 practitioners attended the IC training workshops, and 35 elected to take an IC case and participate in coaching; 30 of the participants (86%) returned the necessary materials for inclusion in the study. Coaches are practicing school psychologists, trained and experienced in IC and in the coaching process, who provided e-mail coaching to the consultant-trainees. One of the four coaches (Coach A) was also the investigator for this

study, making her a participant observer; and a second coach (Coach D) assisted with the data coding. A detailed description of the demographics of each group is provided below.

Coaches

The four school psychologists who participated in this study as coaches for the e-mail coaching course in IC were selected due to their knowledge and skill in IC, their experience in coaching, and their interest in the project. All of the coaches were female school psychologist practitioners who were initially trained in Instructional Consultation (IC) at the University of Maryland College Park's (UMCP) school psychology program.

The UMCP training sequence for IC involved a two-semester practicum course that included didactic and experiential classroom activities as well as practice and supervision on an IC case. Practicum students met weekly with a teacher to conduct the IC collaborative problem-solving process, audiotaped their sessions, and met with a course instructor to review audiotapes and receive feedback. Three of the coaches also completed an internship in which they conducted IC cases and received coaching support from an on-site supervisor trained in IC. The fourth coach's (Coach B) training preparation varied slightly, as she conducted IC cases as part of her work experience and received coaching from another school psychologist trained in IC (Coach A).

Following their formal training in IC, all of the coaches gained experience in coaching by facilitating a school-based IC-Team. Within the IC-Team model, multi-disciplinary teams participate in an IC training workshop and then receive ongoing support for implementation from an on-site facilitator. The four coaches involved in this study each acted as an on-site IC-Team Facilitator who provided coaching during their team members' first IC cases. The coaching process involved a pre-conference to select a

Focus Skill for the consultation meeting, to practice the skill, and to determine procedures for collecting data on skill use; the consultation meeting and data collection; and a coaching conference to review the consultant's skill use and to select a new Focus Skill (Rosenfield & Gravois, 1996). The coaches learned this coaching process through formal course work, reading, and informal training opportunities.

The four coaches' levels of experience as practicing school psychologists and as instructional consultants varied considerably: from 6 to 30 years as a school psychologist; from 6 to 10 years of involvement with IC; from 5 to 9 years of IC coaching experience; and from 0 to 20 years of supervision experience. In addition, the amount of formal training in coaching techniques differentiated the coaches as well, as Coaches A and C received little formal training while Coaches B and D participated in course work and supervision on their coaching skills. Finally, Coach B first began using e-mail when the coaching course began, while the other three had more experience with e-mail. Thus, the coaches' amount of experience and preparation for coaching diverged, but their training in IC skills and content was very consistent.

Consultant-trainees

The consultant-trainees were school-based practitioners who attended one of the IC training workshops and then elected to take an IC case and receive coaching. Eight school districts in Maryland and Virginia that were in the process of implementing the IC-Team model sent school personnel to participate in the IC training workshops. The eight districts represented urban, suburban, and rural school contexts.

Sixty-five practitioners were trained—35 in 2000-01 and 30 in 2001-02—and offered the opportunity to receive coaching for application of skills (see Table 3). Thirty-

five practitioners elected to participate in the e-mail coaching course—19 during 2000-01 and 16 during 2001-02. The reasons for not participating given by the other 30 practitioners are listed in Table 4.

Table 3.

Training Sequence and Participation in the E-mail Coaching Course in IC.

	Number of Participants		
	2000-01	2001-02	Total
Attended IC Training Workshop	35	30	65
Participated in E-mail Coaching	19	16	35
Completed IC Case	14	13	27
Returned Feedback Forms	16	14	30

All of the 27 consultant-trainees who completed the e-mail coaching course in IC, as well as six consultant-trainees who progressed through the stage of Intervention Design in their cases, were asked to participate in this study. Of the 33 consultant-trainees, 30 returned their consent and feedback forms to be included in the study. The 30 participants consisted of 29 females and 1 male. Their professional positions included school psychologist (19), special educator (3), teacher (2), reading specialist (2), teacher specialist (1), guidance counselor (1), and unknown (2). Half had greater than 10 years of experience in their position, 20% between 5 and 10 years, and 30% less than 5 years. All but three consultant-trainees had previous exposure to e-mail, although 10 (one-third) indicated they had limited access to e-mail. In terms of previous consultation training, half of the 30 participants had taken a consultation course prior to this experience, but

only eight practitioners received supervision on their consultation skills. Most of the participants with previous course work in consultation (90%) were school psychologists. All but one consultant-trainee indicated their intent to continue taking IC cases in the future.

Table 4.

Reasons Given for Not Participating in E-mail Coaching Course in IC.

Reason Given for Not Participating	Number of Practitioners
Exposure to IC desired, not application of skills	6
Difficulty finding teacher to participate	5
Insufficient time	4
Move to county/school that was not implementing IC	4
Cases assigned to team members rather than consultant-trainee	3
Not school-based	3
No e-mail access	2
No contact/unknown	2
Maternity leave	1
Total	30

Instruments

The instruments and data utilized in the current study consisted of the coaches' e-mail responses to the consultant-trainees and the set of rating and feedback forms designed to assess participants' perceptions of the e-mail coaching process. The e-mail coaching responses were generated by the coaches to provide feedback to the consultant-

trainees on their audiotaped consultation meetings; their format is described in the Procedures section. The three rating forms and their development are explained in detail below.

Feedback and Rating Forms

All of the feedback and rating forms were developed by the investigator to address the exploratory questions posed in this study. The forms were designed based upon information from the literature, piloted by two consultant-trainees and one coach, and revised based on the pilot participants' feedback on the clarity and inclusiveness of the questions. Consultant-trainees and coaches received separate rating form packets (see Appendix A and B, respectively), which consisted of primarily the same forms but with different versions for the consultant-trainees and the coaches. The content and development of each form is summarized in Table 5.

Feedback on Coach's E-mail Response form. The Feedback on Coach's E-mail Response form was initially developed based on a technique used by Kruger et al. (2001b) and revised following the pilot with two consultant-trainees. In Kruger et al.'s study of perceptions of e-mail consultation, consultees received hard copies of the e-mail messages sent to them by consultants and were asked to rate how much each thought unit contributed to their knowledge development. However, given the length of the e-mail messages sent by coaches to consultant-trainees in the current study, it was not feasible to ask consultant-trainees to rate each thought unit. The technique was adapted to a format in which consultant-trainees were asked to re-read one e-mail message—the first Problem ID feedback—and bracket and underline the sections that were most and least helpful (respectively) for their skill development.

Table 5.

Summary of Feedback and Rating Forms

Instrument	Respondent	Purpose	Scale	Design
Feedback on Coaches' E-mail Response	Consultant-trainees	To obtain feedback on which types of coaching were most beneficial to skill development	Open-ended questions	Based on technique used by Kruger et al. (2001b); revised based on pilot
Rating of Skill Development/ Contribution of Coaching	Coaches & Consultant-trainees	To measure perceptions of consultant-trainees' skill development, and of the impact of coaching on skill development	Likert scale	Based on Rosenfield and Gravois' (1996) list of critical IC skills; revised based on pilot
Feedback Form for Online Coaching	Coaches & Consultant-trainees	To measure perceptions of the quality of coaching and the benefits & drawbacks to using e-mail for coaching	Likert scale	Based on IC training evaluation format and the literature on computer-mediated communication

Feedback from the two consultant-trainees who were asked to pilot the forms suggested two problems with this format. First, the inclusion of only one e-mail coaching message limited the range of their responses; sometimes the most helpful response was not present in that particular e-mail. Second, while they could describe what was helpful and provide examples, it was difficult to bracket a particular thought unit that captured what they were trying to convey. The format was revised to address these concerns by sending a hard copy of the complete e-mail sequence, so that consultant-trainees could reflect upon the entire coaching experience, and by eliminating the bracketing/ underlining and instead including open-ended questions, to assess what coaching responses were most and least helpful. Specifically, the three questions that the consultant-trainees were asked to reflect upon and respond to included: (1) Was there a specific event during the coaching experience that you found particularly helpful? (2) What specific types of feedback did you find most helpful to your skill development? And (3) Did your coach provide any feedback that was confusing? The consultant-trainees' responses to these questions were summarized to determine what coaching responses they perceived as most beneficial for their development of Instructional Consultation skills.

Rating of Skill Development and Contribution of Coaching form The Rating of Skill Development form was designed based upon the set of critical skills for IC outlined by Rosenfield and Gravois (1996): problem-solving skills (Contracting, Defining the Problem, Prioritizing, Establishing Current Performance and Goals, Designing and Implementing Interventions, Evaluating Interventions); assessment skills (CBA and Observation); data recording skills (Graphing and Completing the SDF); and

collaboration skills (Communication Skills and Maintaining a Collaborative Relationship). Consultant-trainees and coaches were asked to rate consultant-trainees' levels of each skill on a five-point Likert scale. The Likert scale was designed to reflect the levels of impact for training indicated by Joyce and Showers (1980): awareness, understanding, skill acquisition, and skill application. A fifth level was added to assess the ability to coach someone else in the skill, which is a long-term goal for the consultant-trainees, since they are expected to facilitate an IC-Team and coach team members on site in the future.

Because the form was administered to both coaches and consultant-trainees, two versions of the form were created. On the coach version, coaches were asked to rate each consultant-trainee's level of skill at the end of the e-mail coaching experience. Based on the pilot, the form was revised to include a "not enough information" category since not all of the skills were addressed and observed in every consultation case. On the consultant version of the form, consultant-trainees were asked to rate their own skill level after the IC coaching experience, and to reflect upon and retrospectively rate their skill level before taking an IC case and receiving coaching.

The retrospective pretest-posttest design has been found to be a valid measure of perceived change when using self-report instruments (Hoogstraten, 1982; Nicholson, Belcastro, & Gold, 1985; Sprangers & Hoogstraten, 1989). Subjects rate their pre- and post-training performance after participating in training, rather than completing the pretest before the training as in the traditional pretest-posttest design. Studies have revealed that subjects' internal standards for evaluating their performance change following training intervention, so a traditional pretest-posttest comparison is distorted by

response bias whereas a retrospective pretest-posttest allows subjects to refer to the same internal construct when completing the measures (Nicholson et al., 1985). In essence, subjects are unaware of what they do not know before they engage in a training intervention. In some cases, the retrospective procedure is actually favored because the index of change is more similar to objective measures than traditional methods are (Hoogstraten, 1982). Based upon this research, the retrospective pretest-posttest was the method selected for measuring participants' self-reported skill development in this study.

Since many factors may influence skill growth, the consultant version of the form also included a separate scale—the Contribution of Coaching to Skill Development scale—to evaluate the consultant-trainees' perceptions of the impact of coaching on their skill development. Here, the same list of critical IC skills was presented, and consultant-trainees were asked to rate the degree to which coaching contributed to their development of each skill. Ratings fell on a three-point Likert scale, with 1 being "Not at all," 2 being "Somewhat," and 3 being "A great deal."

The Contribution of Coaching to Skill Development scale was initially designed as a separate form that included the list of IC skills and a five-point Likert scale. However, feedback from the consultant-trainees who piloted the forms indicated that the inclusion of two forms to rate skills was unnecessarily lengthy and that the five-point scale required too fine a distinction. Thus, the Contribution of Coaching form was combined with the Rating of Skill Development and amended to a three-point scale, as described above.

Feedback Form for Online Coaching Experience. Feedback forms were designed to measure consultant-trainees' perceptions of the quality of coaching and all

participants' perceptions of the viability of using e-mail for coaching. Questions about the use of e-mail were derived from the literature on computer-mediated communication. Four factors to consider when using e-mail to communicate include: accessibility, the impersonal nature of e-mail, the amount of time it requires, and comprehension of complex information (see Bordia, 1997; Kruger et al., 1996). Thus, the form consisted of questions about each of these areas, worded differently for consultant-trainees and coaches, to be rated on a five-point Likert scale. Specific questions included: (1) Ease of using/ accessing e-mail to receive (send) feedback and communicate with your coach (consultant); (2) Level of comfort with receiving (sending) feedback via e-mail; and (3) Ease of understanding (conveying) complex information about the case via e-mail. With reference to time, coaches rated the amount of time spent writing feedback to consultant-trainees compared to giving feedback face-to-face. Consultant-trainees indicated the number of times they read the feedback and rated the helpfulness of having the written feedback available to re-read.

The consultant-trainee version of the Feedback Form for Online Coaching also included a set of questions about the quality of coaching. The four questions about coaching were developed based upon the typical format for evaluation that has been utilized for all of the IC training workshops and then adapted to the coaching process. The questions included: (1) Usefulness/relevance of coach's feedback to your case; (2) Effectiveness of coach's feedback for increasing your skills as a consultant; (3) Clarity of coach's feedback; and (4) Thoroughness of coach's feedback. These were rated on a five-point Likert scale, from "Not at all" to "Very." Consultant-trainees were also asked to rate the overall effectiveness of the e-mail coaching course.

The Feedback Form for Online Coaching for both consultant-trainees and coaches also included two open-ended questions to assess general perceptions of the e-mail coaching course: What aspects of this on-line coaching experience have been most helpful for you, and what changes do you recommend to improve the on-line coaching experience? Comments from the two consultant-trainees and one coach who piloted the forms indicated that this form was clear and did not need revision.

Background information form. The background information form requested information about the participants' professional position, years of experience as a practitioner, and familiarity with e-mail. In addition, the consultant-trainee version included questions about previous consultation training and experience, while the coach version included similar questions about previous IC and coaching experience. The information obtained from this form was used to provide demographic data about the participants in this study.

Procedures

Program Description

Instructional Consultation (IC) is a collaborative consultation model that is founded upon systematic problem solving, effective communication, and the use of Curriculum-based Assessment (CBA) for instructional planning (Gravois & Gickling, 2002; Rosenfield, 1987). IC-Teams are multidisciplinary school-based teams of professionals trained in IC, who provide collegial assistance to teachers experiencing classroom-based concerns. At the time of this study, the IC-Team model of service delivery was being implemented in multiple school districts in Maryland and Virginia and in one county in Delaware. The model was first adopted in Maryland in 1992, when

the Howard County Public School System piloted IC in two elementary schools. Over the next several years, many other schools in that county developed IC-Teams; and a second district, the Baltimore City Public School System, initiated the model. In 1996, a consortium was created between the University of Maryland, Howard County, and Baltimore City to support the development, training, implementation, and evaluation of IC-Teams.

During the 1998-99 school year, several other school districts in Maryland and Virginia developed contracts with the IC-Team Consortium to provide training and support in IC; and the Laboratory for IC-Teams was instituted at the University of Maryland in 2000 for that purpose (Gravois, Knotek, & Babinski, 2002). During the course of the model's expansion, the program designers refined the process for training school personnel in the critical skills of Instructional Consultation. Since this professional development sequence, particularly the portion that involved coaching via e-mail, was the focus of the current study, a brief description follows.

The IC training program format consists of a 20-hour workshop, conducted over a three- or four-day period, followed by coaching during participants' first IC cases. The focus of the workshop training is on developing the knowledge and skills required to be an effective instructional consultant. These include: critical components of the IC-Team model; assumptions of IC; collaborative Communication Skills; the Problem-solving Process; Contracting skills; Problem Identification skills, including Prioritizing, Defining Problems Observably, measuring Current Performance, and establishing Goals; CBA/ instructional assessment; Intervention design and implementation; data collection and analysis to evaluate student performance; and Student Documentation Form (SDF) use.

The format of training is based upon Joyce and Showers' (1980) level of impact framework; it involves presentation of theory and didactic instruction, live and video demonstrations, practice through written exercises and role plays, and feedback.

At the end of the workshop training, all of the participants are encouraged to take a training IC case and receive coaching from an experienced instructional consultant. The IC coaching process was developed based on the teacher coaching literature (see Sparks & Loucks-Horsley, 1990). It involves a pre-conference to select the Focus Skills for development, to practice these skills, and to determine a method for collecting data on the consultant-trainee's use of the skill; the consultation meeting/ data collection phase; and a coaching conference to review the data on skill use and decide on a continued focus for coaching (Rosenfield & Gravois, 1996). Within the IC training process, IC-Team members typically receive coaching from an on-site team facilitator who is skilled in IC and trained in coaching. However, as the model expanded, one challenge of IC training was determining how to provide these on-site team facilitators with coaching before they were asked to assume this role.

This led to two adaptations to the IC training process. First, the designated IC-Team Facilitators now attend the IC training workshop approximately six months prior to their teams' attendance. This affords them the time to learn the skills and apply them within a case before coaching their team members. For the 30 consultant-trainees involved in the current study, the IC training workshop was conducted in July 2000 for 13 participants, in February 2001 for 3 participants, and in July 2001 for 14 participants. Second, the coaching process has been adapted to a distance-learning version using e-mail for the IC-Team Facilitators, due to time and logistical constraints. In the e-mail

coaching process, the consultant-trainee engages in consultation with a teacher, audiotapes each meeting, and mails the tape to her coach weekly; the coach listens to the audiotape and provides a coaching response by e-mail each week. This was the format for coaching utilized and examined in the current study.

During the Summer 2000, four experienced instructional consultants were selected to become coaches for the e-mail coaching course, and one coach was designated as the coordinator to monitor and archive all e-mail communications. The coordinator resigned in February 2001, due to excessive professional demands on her time. At that time, a new coordinator (Coach A) was assigned, and an additional coach (Coach D) was selected in July 2001. The coach who resigned was not included in this study, because she coached only a small number of consultant-trainees, several of whom did not complete their cases.

The original coordinator coach developed a Consultant Manual to describe the e-mail IC coaching process and framework for feedback, which was revised by the second coordinator coach (see Appendix C). The Consultant Manual includes steps for recording, labeling, and sending tapes to coaches; suggestions for finding a teacher with whom to work; and guide sheets of the problem-solving stages. Course requirements are also laid out in the manual, which consist of completing and sending at least five tapes: one for Contracting, two for Problem Identification, one for Intervention Design and Implementation, and one for Intervention Evaluation. Finally, the manual states that communication between the coach and consultant-trainee is restricted to e-mail, and it explains the e-mail coaching framework.

After manuals were sent to the participants each semester, coaches were provided a list of the consultant-trainees assigned to them and their e-mail addresses. Coaches then made an initial contact with their assigned consultant-trainees by e-mail. In the initial contact the coaches introduced themselves, provided instructions for mailing tapes, and arranged a schedule for weekly e-mail communication.

The 30 consultant-trainees who elected to participate in the e-mail coaching proceeded to find a teacher within their school to engage in the IC Collaborative Problem-solving Process. Consultant-trainees and teachers met on a regular basis, although not always weekly, to complete the IC Problem-solving Stages and Steps; these sessions were audiotaped. After each consultation meeting, consultant-trainees sent the tape, Student Documentation Form (SDF) copy, and CBA data to their assigned coach, who then listened to the tape, reviewed the material, and e-mailed a coaching response. Every attempt was made to e-mail the coaching response within the week, prior to the consultant-trainee's next consultation meeting with the teacher.

Coaching responses followed the framework established by the coordinator, which addressed six areas: appropriateness of content to the consultative stage; quality of the working relationship; accuracy and appropriateness of the SDF; quality and appropriateness of CBA; Focus Skill area performance; and overall impressions of the effectiveness and efficiency of the session (see Consultant Manual in Appendix C). While the coaches were asked to make at least two comments per section, the specific content of the comments and the approach to coaching were left to the coaches' discretion of what they thought would be most helpful to the consultant-trainee. As such, the coaches' e-mails to the consultant-trainees captured the dynamics of the coaching

process and content in a permanent product form. Consultant-trainees were encouraged to e-mail any questions or clarifications to their coaches following receipt of the coaching feedback, but these communications were optional and varied from participant to participant.

Data Collection

Data for this study were collected in two phases. First, the e-mail coaching responses were generated and saved throughout the coaching process. Then, the rating and feedback forms were distributed and collected at the end of the coaching process. Because there were three groups of participants who were trained and coached at different times, the two phases of data collection were conducted for each group separately.

Coaches' e-mail responses. The coaches' e-mail responses were generated each time the coach received a tape and materials from a consultant-trainee and then wrote a coaching response. The number of e-mails sent by coaches to consultant-trainees ranged from four to nine, with an average of six per consultant-trainee. In order to ensure that the e-mails were saved and organized in files for each consultant-trainee, all e-mails were copied to the coordinator who maintained the files on a disk. The e-mail files were retrieved from the coordinator's disk at the end of the coaching course for the purpose of analysis.

For the qualitative analysis of coaching themes and styles, a subset of 12 of the 30 sets of e-mail coaching responses was selected. There were two reasons for limiting the number of e-mail sets to be analyzed. First, the length and complexity of the e-mails, as well as the depth of the analysis, required a smaller focus in order to capture the richness

of the data in a manageable way. Second, because each coach worked with a different number of consultant-trainees, from four for Coach C to sixteen for Coach A, choosing a subset ensured that there was balanced representation of all four coaches. Specifically, three sets of e-mail coaching responses were selected for each coach, for a total of twelve. The selections were made at random but did include consultant-trainees from each of the three training groups (Summer 2000, February 2001, and Summer 2001).

Rating and feedback forms. In order to examine not only the themes of coaching, but also the consultant-trainees' perceptions of the e-mail coaching process and its impact on their skill development, a format for soliciting this feedback from the consultant-trainees was designed. This format involved sending each consultant-trainee a packet of rating forms and a hard copy of her coach's entire e-mail responses at the end of the coaching experience, and asking each consultant-trainee to reflect on and indicate her perceptions of the e-mail coaching process (see Appendix A). A separate packet was sent to coaches, as described earlier and presented in Appendix B. All forms were coded with a consultant-trainee and coach number to preserve confidentiality.

Rating form packets were sent to the first group of consultant-trainees and coaches in early April 2001; these participants finished their e-mail coaching experience between January and March. Packets were mailed to the second group of consultant-trainees in July 2001, upon completion of their e-mail coaching experience. The third group of consultant-trainees completed the e-mail coaching course between February and April 2002, and they received rating form packets in May. The participants were offered a ten-dollar gift certificate to Amazon.com in appreciation for their completion of forms and were asked to return the forms in a stamped envelope addressed to the Lab for IC-

Teams. If participants did not respond within one month, the rating form packet was sent a second time. All of the feedback and rating forms included in the study were returned before or by July 2002.

Informed consent. All participants received an informed consent form along with their rating form packet (see Appendix D). This form requested permission to include participants' e-mail communications and rating form responses in the current study of the e-mail coaching process. Confidentiality was assured through the use of consultant-trainee and coach numbers rather than names. Only the rating forms and e-mail communications of participants who signed the consent form—30 consultant-trainees and 4 coaches—were included in the analysis. The University of Maryland's Institutional Review Board approved all procedures before data collection commenced.

Data Analysis

The e-mail coaching responses and the participants' rating form responses were analyzed to address the five questions posed in this study. The data analysis included both descriptive and qualitative methods. The descriptive methods primarily consisted of frequency counts of the rating scale responses, which were depicted in tabular or graphic form. The qualitative analysis combined microethnography, or the use of the e-mail recordings as the primary data source, with participant observation, since the investigator participated as a coach in this study. The advantages to this combined approach are that the recorded data increase the potential completeness of the analysis and decrease the risk of detecting only typical or frequent occurrences, while the participant observation ensures a greater knowledge of the contexts by which to understand the meaning of the data (Linn & Erickson, 1990). Of note, the investigator's role as a coach continued

throughout data collection but ended before data analysis; thus her participation lent context to the data analysis, but her coaching responses were not influenced by the study results.

Specifically, Questions 1 and 2, regarding the art of coaching, involved a qualitative analysis of the coaches' e-mail responses to 12 consultant-trainees; while Questions 3 and 5, regarding participants' perceptions of the e-mail coaching process, entailed a descriptive analysis of all 34 rating form responses. The qualitative analysis for Question 4, regarding the relationship between specific coaching styles and positive perceptions of coaching, included both sets of data. The remainder of this chapter is organized according to the five research questions, in order to explain the method of data analysis for each question.

Question 1: The art of coaching: What themes, styles, and behaviors characterized coaches' e-mail responses to consultant-trainees learning to apply Instructional Consultation skills? The coaches' e-mail responses to the consultant-trainees were analyzed to elucidate the art of coaching, or the themes, styles, and behaviors that characterized the coaches' responses to the consultant-trainees. In order to analyze the e-mail coaching responses, it was first necessary to decide upon a process for identifying and labeling the themes and behaviors. There are two alternatives available: to select an existing coding framework and apply it to the data or to design a new framework that is grounded in the data. For the current study, the investigator elected to take an inductive approach to analyzing the coaches' e-mail responses to the consultant-trainees, based on Strauss and Corbin's (1990) grounded theory methods. The rationale for using an inductive approach, rather than an existing framework for categorizing supervisor

behaviors as described in the literature review, lay in the purpose of the study. One aim of the current study was to generate hypotheses about IC coaching behaviors delivered by e-mail, based on a systematic review of the e-mail coaching responses. Existing frameworks had limited application to the data, due to the fact that they were designed for counseling and teaching rather than consultation, and they assumed an expert, supervisory stance rather than coaching.

Grounded theory methods, applied in the current study to the analysis of the e-mail coaching responses, allow the researcher to use qualitative data to develop theory about a phenomenon; the theory is inductively derived from a study of the phenomenon it represents (Strauss & Corbin, 1990). The three steps necessary to develop grounded theory include open, axial, and selective coding. The first step—open coding—led to the development of the coding framework that was used to identify the themes in the e-mail coaching responses for Question 1. The latter two steps—axial and selective coding—were used for Question 4 and are discussed in the appropriate section below.

Open coding is the process of breaking down and conceptualizing the data. It begins by conceptually labeling the phenomena within the data, continues with grouping the conceptual labels to form categories, and ends with developing categories in terms of their properties and dimensions. In the current study, the investigator first read through all of the coaches' e-mails to the 30 consultant-trainees and listed the topics that were observed in the e-mail coaching responses. At this point, all topics were freely listed and labeled, and three organizing themes were identified: the Content of the Coaching Response, the Type of Communication Skill, and the Focus of the Communication. Next, the topic areas that were related to each theme were grouped into conceptual categories.

The Content of the Coaching Response theme included IC Problem-solving Stages and Steps as well as IC Skills and Strategies categories. The Type of Communication Skills theme consisted of bi-directional conversation as well as unidirectional feedback that was either directive or non-directive. The Focus of the Communication theme included the categories of consultant/case, teacher, student, or the coaching process. The investigator then used both the data and the literature to label the properties and dimensions of the categories. For the Content codes, the IC Training Manual (Gravois, Rosenfield, & Gickling, 1999a) was used as a reference to clearly define the IC Problem-solving Stages and Steps as well as the IC Skills and Strategies. For the Type codes, the investigator consulted Friend and Cook's (1992) book on communication skills to further delineate the codes. This resulted in a preliminary coding framework.

The investigator then engaged in a process of clarifying, refining, and confirming the codes. She and an assistant (Coach D) used the coding framework to code four e-mail responses, one for each coach. The two coders compared the codes they assigned, discussed the differences, and made revisions to the coding framework. This process was repeated five times until the two coders were able to reach an acceptable level of agreement (Cohen's kappa above 0.75). At this point they commenced the actual coding for the purpose of data analysis.

Revisions of the coding scheme included the following: first, the Focus of the Communication theme was eliminated and subsumed under the Content of the Coaching Response, as it became apparent that it was redundant. Most responses focused on the consultant and the case. The categories of coaching process, teacher, and student were included in the Content of the Coaching Response as a single category labeled "Other

Content." An additional theme—Volume of the Communication—was noted, but it was not incorporated into the coding framework due to the fact that it was measured by counting sentences rather than by coding. Second, several dimensions were collapsed due to unreliability, such as Suggestion/Information in the Type of Communication Skills codes and CBA/Data collection in the Content of the Coaching Response codes. Third, definitions of the dimensions were clarified, and examples were developed.

Finally, the process for coding the Content of the Coaching Response was changed. Originally, it involved assigning one code that represented the primary content of the sentence. However, many sentences referred to several different content areas, making it difficult to select one primary content code. Next, the coders assigned both primary and secondary codes and indicated if the determination of primary versus secondary status was clear or if there were multiple possible interpretations. This reduced reliability even further, due to the fact that it required an interpretation of the coach's intent in writing the sentence. This led to the final solution, which was to code all of the content within the sentence without designating primary or secondary status, which improved reliability. It should be noted, however, that since the coders were unable to determine the primary content of a sentence reliably, the consultant-trainees receiving the e-mail also might not have interpreted the content in the manner intended by the coach; thus, this is an aspect of the e-mail coaching process that needs to be addressed. The final version of the coding framework and directions is found in Appendix E.

The 12 e-mail sets selected for this part of the study were coded according to this framework. For each sentence, the coder(s) recorded the Contents of the Coaching Response and the Type of Communication Skill used by the coach. When both coders

were involved, they discussed any mismatches that occurred and collaboratively assigned a code. This method is part of a peer debriefing process and helps to ensure objectivity (Erlandson, Harris, Skipper, & Allen, 1993). The investigator then entered all of the Content and Type codes into an Excel database and identified the coach, consultant-trainee, and stage of problem solving for each entry. Using the entire database, counts of the number of sentences coded, the frequency of each Content code, and the frequency of each Type code were generated to obtain a "big picture" of the major themes and styles of the e-mail coaching responses. Finally, tables were created to analyze the Contents and Types of responses observed for each *coach*, for each *consultant-trainee*, and for each *stage* of the Problem-solving Process. These analyses served to illustrate the "art" of coaching—the themes, styles, and behaviors that characterized the coaches' e-mail responses—for Question 1 of this study.

Question 2: Did coaches differentiate their coaching to consultant-trainees, and if so, was this based on the consultant-trainees' selection of Focus Skills? To determine whether the coaches differentiated their feedback to consultant-trainees, the investigator created 12 matrix tables—one for each consultant-trainee—of the Types of Communication Skills used for each Content of Coaching Response area (i.e., a Type by Content matrix). In addition, the content areas that each consultant-trainee had selected as Focus Skills were identified and marked on the table, so as to present a picture of the type and amount of coaching provided for Focus Skills. The matrix tables for each coach's three consultant-trainees were compared qualitatively in order to identify similarities and differences in the style of coaching provided to individual consultant-trainees, for both Focus and non-focus Skills. These comparisons served to reveal whether the coaches

differentiated their responses to the consultant-trainees, and if this was based on the selection of Focus Skills, for Question 2.

Question 3: Perceptions of the quality and benefits of coaching: How helpful did consultant-trainees find the coaching—in what ways, and for which skills? The consultant-trainees' ratings on both the Feedback Form for Online Coaching and the Rating of Skill Development and Contribution of Coaching form were analyzed descriptively to explore their perceptions of the quality and benefits of coaching. Specifically, the percentage of respondents with ratings at each level of the Likert scale was calculated for the following: (1) consultant-trainees' perceptions of the usefulness, effectiveness, clarity, and thoroughness of coaching; (2) consultant-trainees' and coaches' ratings of the consultant-trainees' skill level for each consultation skill following coaching; and (3) consultant-trainees' perceptions of the degree to which coaching impacted on their skill development for each consultation skill. Tables and/or bar charts were created to depict the percentage of participants with responses at each level of the Likert scale, for each question on each rating form.

In addition, the consultant-trainees' Rating of Skill Development form responses were also analyzed to examine their perceptions of the degree to which they improved on each of their IC skills from pre- to post-coaching. First, the percentage of consultant-trainees who rated each skill at or above a level 4: Skill Application, both before and after coaching, was calculated and compared graphically. Next, a dependent samples T-test, comparing the consultant-trainees' pre-coaching mean to the post-coaching mean for each skill, was conducted to measure the significance of the changes. Because 13 T-tests were conducted—one for each skill—an alpha level of .005 was used to maintain a

relatively conservative measure of statistical significance. Finally, for all skills that demonstrated a significant increase, the Effect Size, using pooled standard deviations, was calculated to determine the magnitude of the changes.

Finally, the consultant-trainees' responses to the open-ended questions about the events and types of coaching that benefited their skill development, from the Feedback on Coaches' E-mail Response form, were analyzed thematically. All responses were recorded, and the themes that appeared consistently were noted. These analyses yielded a detailed description of the participants' perceptions of the quality of coaching, their skill development, the degree to which coaching contributed to skill development, and the events and types of coaching that benefited skill development, for Question 3 of this study.

Question 4: What, if any, was the relationship between coaching styles and consultant-trainees' perceptions of the benefits of coaching? The analyses for Questions 1 and 3 served as the foundation for Question 4, which involved a qualitative examination of the inter-relationships between the themes of coaching and participants' perceptions of the benefits of coaching, in order to create a grounded theory of e-mail IC coaching. The steps for developing grounded theory involve categorizing the data through open coding, conceptualizing and analyzing the relationships between categories through axial coding, and re-integrating the data in the form of a story or theory through selective coding (Strauss & Corbin, 1990). Open coding was used to develop the coding framework that yielded the themes of the e-mail coaching responses for Question 1. The next step, axial coding, involves putting the data back together in new ways by making connections between categories. Each category is described in terms of the conditions that give rise to

it, the context in which it is embedded, the action/ interactional strategies by which it is carried out, and the consequences of these strategies. As a paradigm for explaining the data is created in this way, there is a constant interplay between proposing relationships and checking them against the data. Finally, selective coding yields a descriptive narrative about the central phenomenon of study. The steps to selective coding include: explicating the story line, relating subcategories to the core categories, relating categories at their dimensional levels (under this condition, this happens), and validating the relationships in the data. What results from these coding procedures is a grounded theory about the phenomenon under study—in this case, the e-mail coaching of IC skills.

In grounded theory, the data collected serve to drive the analysis, yet it still represents a deliberate rather than an intuitive search of the data. That is, as categories and connections are revealed in the data, the researcher necessarily brings an interpretive frame of reference to the analysis that guides the subsequent search for confirming and disconfirming data. This is important because without a deliberate search for data there is greater risk of collecting an inadequate amount and variety of evidence, of developing faulty interpretations of data, and of failing to seek or pursue disconfirming evidence or discrepant cases (Linn & Erickson, 1990). In this study, the literature review suggested several themes to be explored, including whether supervision/ coaching was delivered in a prescriptive or reflective manner and whether trainees' experiences of the coaching differed depending on their level of skill. While these questions were not addressed explicitly as hypotheses, and did not serve as an organizing framework for coding and categorizing the data, they did provide an interpretive frame of reference for reviewing

and analyzing the data. In addition, the investigator's role as a coach provided her with a context for exploring and understanding the meanings of the actions.

Thus, for Question 4, the investigator examined the connections between the amount, types, and patterns of coaching for each skill, and the consultant-trainees' perceptions of the impact of coaching on these skills. Specifically, for the 12 consultant-trainees whose coaching responses were analyzed, the investigator identified and listed each skill that each consultant-trainee had rated as: (1) increasing markedly (increase of two or more points on the Rating of Skill Development form); (2) remaining stagnant (rating of 3 or below with no increase on the Rating of Skill Development form); (3) greatly impacted by coaching (rating of 3 on the Contribution of Coaching scale); and (4) not impacted by coaching (rating of 1 on the Contribution of Coaching scale). The investigator then reviewed each e-mail coaching response and examined the matrix tables to determine the amount, type, and pattern of feedback corresponding to the skills listed for each consultant-trainee. Tables were created to summarize the data on the amount, type, and patterns of feedback for skills that increased markedly, that did not increase, that were greatly impacted by coaching, and that were not impacted by coaching. As patterns became apparent, they were re-checked against the e-mail coaching responses to validate them; and hypotheses about the relationship between specific e-mail coaching styles and participant outcomes emerged, for Question 4 of this study.

Question 5: Perceptions of the use of e-mail for coaching: What were the positive and negative aspects of using e-mail for coaching Instructional Consultation skills? The final set of data on participants' perceptions of the use of e-mail for coaching, from the Feedback Form for Online Coaching, was analyzed descriptively and thematically. First,

the percentage of respondents with ratings at each level of the Likert scale was calculated for the four questions pertaining to the use of e-mail: the accessibility of e-mail; their comfort with e-mail; the amount of time spent on e-mail; and the ease of communicating complex information when using e-mail for coaching. Next, the participants' open-ended responses to the questions about benefits of and changes to the e-mail coaching course were analyzed for themes pertaining to the use of e-mail for coaching. These analyses served to answer Question 5, regarding the participants' perceptions of the positive and negative aspects of using e-mail for coaching IC skills.

Reliability and validity. The reliability of the coding framework that was created to analyze the e-mail coaching responses was measured by having two raters code a subset of e-mails and establish inter-coder reliability. The investigator and her assistant both coded twenty percent of the e-mail responses—14 total, representing three or four per coach. The reliability checks were conducted throughout the period of data analysis, to guard against coder drift. Cohen's kappa, which corrects for random chance agreement, was used rather than the percentage of inter-observer agreement, because this yields a more accurate measure of reliability (Fleiss, 1981). A kappa value of 0.75 or above is considered to reflect an excellent level of inter-rater agreement (Fleiss, 1981). The two coders reached a level of 0.75 or above for all 14 e-mail responses. The kappa value for the 14 e-mails combined was 0.811 for Content codes and 0.865 for Type codes. Thus, there was adequate inter-coder reliability when using the coding framework to analyze the Contents and Types of e-mail coaching responses.

Validity for qualitative research is established through different means than for quantitative research and is thought of in terms of the "confirmability" of the data

(Erlandson et al., 1993). Two methods of confirming qualitative data that were used in the current study are triangulation and member checking (Lincoln & Guba, 1985). The concept of triangulation means that interpretations of qualitative data can be confirmed when analyses of multiple data sources yield consistent hypotheses; it involves collecting and examining data using different methods to determine if the results converge. In the present study, two methods that served to triangulate each other included (1) the thematic analysis of the consultant-trainees' responses to the open-ended questions about the most beneficial events and types of coaching and (2) the qualitative analysis of the relationship between coaching behaviors and participants' perceptions of the positive outcomes of coaching. Both analyses yielded interpretations about the coaching behaviors and styles that were most beneficial to the consultant-trainees' skill development, using different methods. Since the interpretations from the two analyses were very similar, this lent credibility to the hypotheses generated.

Member checking entails sharing analyses and interpretations with participants to obtain their feedback on the interpretation of the data and conclusions. In the current study, each coach was asked to review one coded e-mail to confirm or dispute the analysis of her e-mail coaching response. In each case, the coaches agreed with nearly 100% of the codes assigned. Through these three methods—inter-coder reliability, triangulation, and member checking—the reliability and confirmability of the qualitative data analyses were checked and established.

Chapter 4

RESULTS

The results presented in this chapter include a description of: (a) the art of coaching Instructional Consultation (IC) skills by e-mail; (b) the consultant-trainees' perceptions of the quality and benefits of coaching; and (c) the consultant-trainees' and coaches' perceptions of the benefits and drawbacks to using e-mail for coaching. Furthermore, the results include an analysis of: (d) the ways in which coaches differentiated their feedback to consultant-trainees; and (e) the interplay between coaching styles and consultant-trainees' perceptions of the benefits of coaching. The results are organized into sections pertaining to the research questions listed in Chapter 1.

Question 1

The Art of Coaching: What themes, styles, and behaviors characterized coaches' e-mail responses to consultant-trainees learning to apply Instructional Consultation skills?

The open coding conducted by the primary investigator and an assistant revealed three central themes to the IC coaching e-mails: (1) the Volume and Complexity of the e-mail responses; (2) the Type of Communication Skills used in the coaching e-mail; and (3) the Content or focus of the e-mail Coaching Response. Each theme is described in detail.

The theme of Volume and Complexity refers to the length of the coaches' e-mail messages—the number of sentences in each e-mail message. It also involves sentence complexity, which was defined as the percentage of sentences that addressed more than one content area (i.e., two or more Content codes were assigned for the sentence). In coding the e-mails, the investigators found that both the sheer length of the e-mail

message and the conceptual complexity of the sentences affected the ease with which sentences could be categorized. This, then, had potential implications for the consultant-trainees' understanding of the e-mail responses and was considered to be an important theme of coaching.

The Type of Communication Skills used refers to the way in which the content of the e-mail message was delivered by the coach to the consultant-trainee. Table 6 summarizes the Type of Communication Skills categories that were revealed through the open coding. Definitions of each code appear in Appendix E. The first distinction in types of communications was whether the sentence was a Two-way conversational communication—a response to a question or comment posed by the consultant-trainee, or a question or comment intended to be answered by the consultant-trainee—or a One-way communication—a unidirectional response to the taped consultation meeting intended to provide feedback to the consultant-trainee. Two-way responses consisted of Clarifying Questions, Soliciting Information, or Providing Information, in response to the consultant-trainee rather than to the taped consultation meeting. One-way responses were further broken down into the following categories and dimensions: Directive/evaluative responses (Positive Feedback and Critical Feedback); Non-directive/non-evaluative responses (Support, Observations, and Reflective Questions); and responses that were Open to Interpretation as to whether they were Directive/evaluative or Non-directive/non-evaluative (Suggestion/Information or Other). The latter category was originally subsumed under the other two categories—Suggestion (Directive) and Information (Non-directive), but it was found that most of these sentences were written with many qualifiers, making it difficult to discern whether they were intended as directive

suggestions or non-directive information. Therefore this type of response constituted its own category.

Table 6.

Types of Communication Skills.

Is the communication *Two-way* (between coach and consultant-trainee) or *One-way* (coach's response to taped interaction between consultant-trainee and teacher)?			
I. Two-way communication	II. One-way communication Is the response DIRECTIVE or NON-DIRECTIVE?		
1. Clarifying/ confirming	a. Directive/ Evaluative	b. Non-directive/ Non-evaluative	c. Open to Interpretation
2. Soliciting Information	1.Positive Feedback	1.Support/encouragement	1.Suggestion/ Information
3. Providing Information	2.Critical Feedback	2.Observation/inference	2. Other
		3.Reflective question/ requesting clarification	

The Content of the Coaching Response refers to the topic that was the focus of the response. The content area categories that were observed in open coding are listed in Table 7, and their definitions are provided in Appendix E. The three categories of Content codes included the IC Problem-solving Stages or Steps, IC Skills and Strategies, and Other Content. The IC Problem-solving Stages are those that are listed in the IC manual: Entry and Contracting, Problem Identification and Analysis, Intervention Design, Intervention Implementation, Intervention Evaluation, and Closure. Because of the complexity of the Problem Identification stage, this stage was further delineated into

its specific steps: Describing concerns, discussing Instructional Level, Prioritizing, Defining Problems Observably, establishing Current Performance, and setting Goals.

Table 7.

Content of Coaching Responses.

Does the response mention a Problem-solving Stage or Step?	Does the response mention a Skill or Strategy?	Does the response mention Other Content?
A. Problem-solving process	A. Communication skills	A. Coaching Process
B. Contracting	B. Collaborative relationship	B. Other
C. Problem ID & Analysis	C. Student Documentation	
1. Description of concern	Form (SDF)	
2. Defining the Problem	D. Charting/Graphing	
Observably	E. CBA/Data collection	
3. Instructional Level		
4. Prioritizing		
5. Current Performance		
6. Goals		
D. Intervention Design &		
Implementation		
E. Intervention Evaluation		
F. Closure		
G. Multiple Stages		
H. None		

The IC Skills and Strategies are those skills that are taught in training because they are necessary for completing the IC Problem-solving Stages and Steps. These include: using collaborative Communication Skills, developing a Collaborative Relationship, completing the Student Documentation Form (SDF), Charting and Graphing data, and collecting Curriculum-based Assessment (CBA) and other data. Finally, some responses focused on content other than the IC Stages or Skills, such as the Coaching Process itself or other content. Topics that fell under "Other" included: responses about the teacher, the student, special education, generalizing the IC process to other students, ethics, etc. The e-mail communications for 12 consultant-trainees—three for each of the four coaches—were analyzed to explore coaching styles with reference to these three themes.

Volume and complexity. The coaches sent the consultant-trainees approximately six e-mail coaching responses each, with a range from four to nine. The average length of the e-mail messages across all four coaches for all e-mails was 819 sentences, or 48.2 sentences per e-mail. However, there was considerable variability in length, both according to the stage of the problem-solving process (from 392 – 1932 sentences) and the coach (from 547 – 1507 sentences). When examining the amount of coaching per stage of the problem-solving process, it is evident that much more coaching was provided during Problem Identification and Analysis than during any other stage. Table 8 depicts a summary of the number of sentences and percentage of feedback that the four coaches provided during each stage of the problem-solving process.

Table 8.

Length of E-mail Messages (Number of Sentences Written) per Stage of the Problem-Solving Process.

Stage	Coach A	Coach B	Coach C	Coach D	Total
Entry & Contracting	147 (9.8%)	91 (16.6%)	76 (13.3%)	87 (13.3%)	401 (12.2%)
Problem Identification	844 (56.0%)	340 (62.2%)	344 (60.2%)	404 (62.0%)	1932 (59.0%)
Intervention Design	280 (18.6%)	99 (18.1%)	89 (15.6%)	82 (12.6%)	550 (16.8%)
Intervention Implementation & Evaluation	236 (15.7%)	17 (3.1%)	62 (10.9%)	79 (12.1%)	394 (12.0%)
Total (for each coach)	1507	547	571	652	3277

With regard to differences among coaches in the length of the e-mails, three of the coaches (Coaches B, C, and D) wrote e-mails that were similar in length, from 34.2 to 40.8 sentences per e-mail on average, while Coach A's e-mails were longer, averaging 71.8 sentences per e-mail (see Table 9). The complexity of the sentences within the e-mail messages followed a similar pattern for the four coaches. The percent of sentences with more than one Content code ranged from 45% to 67%. Again, Coaches B, C, and D used a similar style, with only 45% to 52% of their sentences discussing more than one content area. Coach A, on the other hand, addressed more than one content area within a sentence 67% of the time. When considering length and complexity in combination, this suggests that Coach A's style differed from that of Coaches B, C, and D, in terms of writing lengthier e-mails with more complex sentence structures.

Table 9.

Length and Complexity of E-mail Coaching Responses.

	Coach A	Coach B	Coach C	Coach D
Length (number of sentences) (average sentences/e-mail)	1507 (71.8/e-mail)	547 (34.2/e-mail)	571 (40.8/e-mail)	652 (38.3/e-mail)
Sentences w. 1 content code	490 (33%)	300 (55%)	301 (53%)	339 (48%)
Sentences w. 2 content codes	648 (43%)	172 (31%)	206 (36%)	206 (36%)
Sentences w. 3 content codes	265 (17%)	60 (11%)	46 (8%)	86 (13%)
Sentences w. 4 content codes	104 (7%)	15 (3%)	18 (3%)	21 (3%)

When examining which Content codes appeared together in a sentence, it was found that the most common combination was to discuss a Problem-solving Stage or Step together with a Skill or Strategy (see Table 10). This suggests that the purpose of writing complex sentences was often to help a consultant-trainee determine what Skill or Strategy to use to complete a specific Problem-solving Stage or Step. An example is: "Another communication skill that helps to make concerns more objective and observable is clarification," as this targets both the Skill of Communication and the Problem-solving Step of Defining the Problem Observably. This pattern was true for all coaches, although clearly the number of sentences that involved this pattern was higher for Coach A than for the other three coaches.

Table 10.

Content Codes That Appeared Together Most Frequently.

	Coach A	Coach B	Coach C	Coach D
Sentences w. >1 content code	1017	247	270	313
Problem-solving w. Skill	641 (63%)	131 (53%)	181 (67%)	191 (61%)
Problem-solving w. Problem-solving	234 (23%)	89 (36%)	51 (19%)	72 (23%)
Skill w. Skill	142 (14%)	27 (11%)	38 (14%)	47 (15%)

Type of communication skill. When examining the Types of Communication Skills coaches used most frequently, it appears that coaches used a great deal more One-way communications (84.5%) than Two-way communications (15.5%; see Table 11). This style was consistent across all four coaches. The coaches used Two-way communications, which involved questions or responses to consultant-trainees, most frequently at the very beginning and ending of the e-mail message, which gave it a conversational tone. Within the body of the e-mail, the coaches primarily used One-way communications that consisted of responses to the taped interactions between the consultant-trainee and teacher.

When looking specifically at the One-way communications, which constituted the majority of the e-mail interactions, it appears that the coaches' styles remained fairly similar, although there were some subtle stylistic differences. All four coaches provided a balance of Directive, Non-directive, and Open to Interpretation types of communications to the consultant-trainees (see Table 11). However, there were slight differences in the

coaches' predominant styles. Two coaches, Coaches A and B, used more communications that were Open to Interpretation, specifically Information/Suggestion, than other Types of Communication Skills. Coaches C and D each provided more communications in one of the other two categories—Coach C provided slightly more Non-directive/non-evaluative communications, while Coach D provided more Directive/evaluative communications.

Table 11.

Breakdown of Types of Communication Skills Used by Coaches.

	Coach A	Coach B	Coach C	Coach D	Average
Two-Way Communications	210 (14%)	69 (13%)	111 (19%)	114 (18%)	504 (15.5%)
One-Way Communications	1285 (86%)	474 (87%)	458 (81%)	538 (82%)	2755 (84.5%)
Directive/evaluative	366 (28%)	123 (26%)	117 (25%)	201 (37%)	807 (29.3%)
Non-directive/non-evaluative	327 (25%)	156 (33%)	182 (40%)	162 (30%)	827 (30.0%)
Open to Interpretation	592 (46%)	195 (41%)	159 (35%)	175 (33%)	1121 (40.7%)

In terms of *specific* One-way communication skills, all four coaches used Information/Suggestion, Positive Feedback, and Observations predominantly, and Reflective Questions, Support, and Critical Feedback less often (see Table 12). Furthermore, three of the four coaches used Information/Suggestion the most frequently, whereas the fourth (Coach D) used Positive Feedback the most. This indicates that Coach D's style differed from the other coaches, in terms of using more positive, evaluative

feedback. Of note, while this was the only stylistic difference among coaches in the Types of Communication Skills used, the coaches' use of communication skills did vary somewhat depending on which consultant-trainee they were addressing, which is discussed in Question 2 below.

Table 12.

Breakdown of Specific One-way Communication Skills Used by Coaches.

Type of Feedback	Coach A	Coach B	Coach C	Coach D
Positive Feedback	334 (22%)	122 (22%)	101 (18%)	186 (29%)
Info/ Suggestion	592 (39%)	195 (36%)	159 (28%)	175 (27%)
Observation	266 (18%)	92 (17%)	124 (22%)	132 (20%)
Reflective Question	30 (2%)	32 (6%)	27 (5%)	11 (2%)
Critical Feedback	32 (2%)	1 (0%)	16 (3%)	15 (2%)
Support	31 (2%)	32 (6%)	31 (5%)	19 (3%)

Content of the coaching response. Within the Content of the Coaching Response theme, all four coaches provided the most feedback on the Problem-solving Stages and Steps. This accounted for between 45% to 60% of the coaches' feedback (see Table 13). However, only Coach B provided feedback predominantly on Problem-solving Stages and Steps. The other three coaches provided more of a balance between Skills and Problem-solving Stages, with relatively more feedback in the area of Problem-Solving. The least feedback was provided in the Other Content area. Of note, the Problem-solving Stages category included the greatest number of Content codes, whereas the Other

category contained the least number of Content codes, so it is more informative to examine specific content areas than these categories per se.

Table 13.

Content of Coaching Responses: Amount of Feedback Provided for Each Category.

Content of Feedback	Coach A	Coach B	Coach C	Coach D
Problem-solving Stage	1515 (51%)	522 (60%)	408 (45%)	527 (49%)
Skill	1215 (41%)	242 (28%)	379 (42%)	439 (41%)
Coaching/other	237 (8%)	111 (13%)	120 (13%)	115 (11%)

In terms of specific Content codes, it appears that the coaches focused more on some content areas than others. Generally speaking, the content areas that received the most coaching included: Curriculum-based Assessment (CBA)/Data, Collaborative Relationship, and Defining the Problem Observably; each coach provided the greatest amount of feedback in at least two of these three areas (see Table 14). Furthermore, the coaches typically provided the least amount of coaching in the content areas of Description of Concern, Prioritizing, Current Performance, Entry and Contracting, and Graphing. Overall, then, it appears that the coaches demonstrated some broad stylistic similarities in their focus on key content areas.

Table 14.

Content of Coaching: Amount of Feedback Provided on Specific Content Areas.

Content of Coaching Response	Coach A	Coach B	Coach C	Coach D
CBA/Data	11%	11%	12%	13%
Collaborative Relationship	15%	8%	17%	11%
Defining the Problem	11%	18%	8%	9%
PID/PSP General	3%	6%	4%	8%
SDF	5%	2%	6%	8%
Coaching Process	7%	5%	10%	8%
Intervention	9%	7%	6%	8%
Goal Setting	4%	4%	3%	6%
Current Performance	3%	2%	3%	5%
Communication Skills	7%	5%	7%	5%
Graphing	2%	2%	1%	4%
Entry & Contracting	3%	6%	2%	4%
Intervention Evaluation	4%	3%	4%	4%
Prioritizing	4%	2%	1%	3%
Instructional Level	4%	4%	8%	1%
Initial Description of Concern	3%	0%	3%	1%

Yet within these broad similarities, there were clear differences among coaches in the relative amount of feedback provided for specific content areas. This was especially true for the content areas of Collaborative Relationship, Defining the Problem

Observably, and Instructional Level, where there was up to a 10% difference among coaches in the percentage of feedback provided. Coaches C and A devoted a higher percentage of their feedback to the Collaborative Relationship than the other two coaches did. These two coaches frequently embedded the concept of collaboration within their feedback, emphasizing "you *and the teacher*" in most communications. Furthermore, Coach B provided a greater percentage of feedback for Defining the Problem, while Coach C devoted a higher percentage of feedback to Instructional Level, relative to the other coaches. Thus, there were some individual stylistic differences in focus on specific content areas among the coaches.

In sum, three themes emerged from the open coding of the e-mail coaching: Volume/complexity of e-mails, Type of Communication Skills used, and Content of the Coaching Response. There were many stylistic similarities among coaches with reference to these themes: (1) coaches provided more One-way than Two-way communications; (2) coaches provided predominantly a balance of Information/Suggestion, Positive Feedback, and Observation, with an emphasis on Information/Suggestion; (3) coaches provided more feedback on Problem-solving Stages and less on Other Content; (4) coaches generally provided the most feedback for Curriculum-based Assessment/Data, Collaborative Relationship, and/or Defining the Problem Observably; and (5) when sentences contained more than one Content code, they typically discussed a Problem-solving Stage together with a Skill or Strategy. However, there also emerged some individual stylistic differences among coaches that should be noted: (1) Coach A wrote lengthier e-mails and more complex sentences than the other three coaches; (2) Coach D used more Positive Feedback than other Types of Communication Skills, whereas the

other coaches used more Information/Suggestion; (3) Coach B focused on Defining the Problem more than the other coaches; and (4) Coach C focused on Collaborative Relationship and Instructional Level more than the other coaches. These differences among coaches, as well as the variation within coaches in their responses to different consultant-trainees, will be considered more fully in relation to perceived outcomes in Question 4.

Supplementary analysis. An additional component of the coaching e-mails that bears discussion is whether or not feedback on a Focus Skill was present. Focus Skills are specific IC Problem-solving Steps or a Skill or Strategy that consultant-trainees select for additional feedback, according to their perceived needs. Consultant-trainees were directed to select a Focus Skill before each coaching e-mail. However, this practice was not emphasized during the first semester of coaching, and so Focus Skills were not considered in the original pilot study. During the second semester of coaching, the coaching coordinator and the coaches emphasized this requirement, after which Focus Skills were selected more regularly. Therefore, a supplementary analysis is provided on the frequency and content of Focus Skills selected by consultant-trainees.

Of the 30 consultant-trainees who participated in the e-mail IC Coaching course, 12 (40%) selected Focus Skills on a weekly basis, 10 (34%) selected one Focus Skill for the entire semester, and 8 (26%) did not select a Focus Skill. The content areas that were selected as Focus Skills are listed in Table 15. Specifically, Curriculum-based Assessment (CBA)/Data was the most frequently selected Focus Skill, suggesting that consultant-trainees felt a need in this area. Interventions, Entry and Contracting, Defining the Problem Observably, and Communication Skills were also selected commonly. The

data indicate that consultant-trainees had questions about a wide range of topics within the IC process, with CBA/Data as the primary focus of consultant-trainees' needs.

Table 15.

Focus Skills: Content Areas Selected by Consultant-trainees.

Content Areas Selected	Number Who Selected
Curriculum-based Assessment/Data	15
Interventions	9
Entry and Contracting	7
Defining the Problem Observably	6
Communication Skills	6
Collaborative Relationship	5
Goal Setting	4
Prioritizing	2
Current Performance	2
Problem ID General	2
Other	2
SDF	1
Graphing	1

Question 2

Did Coaches Differentiate Their Coaching to Consultant-trainees, and if so, Was This Based on the Consultant-trainees' Selection of Focus Skills?

The four coaches' e-mail responses to three consultant-trainees each were analyzed qualitatively to explore how the amount and style of coaching differed for each consultant-trainee. Overall, as mentioned in Question 1, there was a fair amount of consistency within and among coaches in the content areas that received the most coaching, these being collecting Curriculum-based Assessment (CBA)/Data, establishing a Collaborative Relationship, and Defining the Problem Observably.

Nevertheless, within that context, coaches did provide differential amounts of coaching and emphases in the content of the coaching to different consultant-trainees (see Table 16). Some consultant-trainees received greater amounts of coaching than other consultant-trainees, even when accounting for different coaching styles. For example, Consultant-trainee #17 received more feedback than Consultant-trainees #7 or #18, despite the fact that they were coached by the same person. In addition, coaches emphasized different content areas for different consultant-trainees. Coach C provided Consultant-trainees #73 and #26 with much more coaching on CBA/Data than Consultant-trainee #67 received. Furthermore, coaches also differentiated the Types of Communication Skills they used to provide coaching to each consultant-trainee for specific content areas (see Table 17). For instance, Coach D provided mostly Information/Suggestion to Consultant-trainee #66 for Current Performance, yet used solely Positive Feedback when coaching Consultant-trainee #64 on this skill. Therefore,

it appears that coaches did differentiate their coaching to consultant-trainees to some extent.

One possible reason for the differentiated coaching provided to consultant-trainees is that this was in response to the consultant-trainees' expressed needs for more support in specific areas through their selection of Focus Skills. When examining the amount of coaching devoted to Focus Skills as compared to the amount of coaching provided for the rest of the content areas, it did not appear that the coaches provided more coaching for Focus Skills relative to the other content areas (see Table 16; asterisks indicate that the consultant-trainee selected that content area as a Focus Skill).

Coach C may represent a possible exception, as it appears that she did provide relatively more coaching for the content areas that were selected as Focus Skills. However, this is difficult to determine since two of the four Focus Skills (CBA/Data and Defining the Problem for Consultant-trainee #26) were also the content areas for which the coaches gave the most feedback in general. Furthermore, when examining the Types of Communication Skills used when providing coaching for Focus Skills (see Table 17), there was a predominance of Information/Suggestion along with a mixture of other types of communication skills. Again, this did not differentiate the coaching for Focus Skills from the coaching for other content areas, except perhaps for Coach D, who typically provided more Positive Feedback. Thus, it did not appear that coaches systematically provided more or different types of coaching depending on the consultant-trainees' expressed needs. Other factors that may have contributed to coaches differentiating their feedback to consultant-trainees are considered in Chapter 5.

Table 16.

Amount of Feedback Provided on Specific Content Areas to Each Consultant.

	Coach A			Coach B			Coach C			Coach D		
	#18	#7	#17	#27	#72	#70	#26	#73	#67	#64	#66	#59
Collaborative Relationship	16%	13%	14%	9%	8%	10%	17%	17%	17%	11%	13%	9%
Data/CBA	13%*	9%	12%*	8%	16%*	9%*	13%*	14%	6%	15%*	16%	11%*
Defining the Problem	11%*	11%*	11%	21%	18%	18%	9%*	9%	5%	8%	11%*	8%*
Interventions	9%	9%	9%	7%	9%	5%	7%	5%	5%	5%*	10%	8%*
Communication Skills	6%	8%	8%	8%	2%	6%	4%	9%*	10%*	6%*	6%*	3%
Coaching Process	8%	6%	6%	5%	5%	6%	8%	10%	15%	11%	6%	8%
Entry & Contracting	5%	4%	2%	2%*	7%*	10%	1%	4%	5%	5%*	3%	4%*
Intervention Evaluation	5%	5%	3%	2%	1%	6%	6%	2%	2%	3%	5%	2%
SDF	4%	7%	5%	4%	0%	0%	7%	7%	2%	10%	6%	9%
Goal Setting	4%	6%	3%	7%	3%	4%	3%	5%	2%	10%*	3%*	6%
Description of Concern	3%	2%	4%	1%	1%	2%	4%	0%	5%	3%	0%	1%
Current Performance	3%	3%	4%	4%	3%	1%	2%	1%	7%	1%	3%*	9%
Prioritizing	3%*	3%*	5%	2%	2%	2%	1%	2%	1%	2%	4%*	3%*
PID/PSP General	4%	6%	2%	7%	16%	6%	4%	3%	7%	8%	6%	8%
Instructional Level	2%	4%	6%	1%	7%	4%	8%	8%	6%	2%	2%	1%
Other	2%	2%	1%	6%	12%	9%	3%	5%	2%	2%	1%	5%

Note: Asterisk (*) denotes skills that were selected as Focus Skills by consultants.

Table 17.

Type of Feedback Provided on Specific Content Areas to Each Consultant-trainee.

	Percent of Information Suggestion / Positive Feedback Provided			
Consultant	CBA	Defining Problem	SDF	Current Perf.
Coach A				
#18	73% / 8%*	63% / 14%*	38% / 32%	68% / 12%
#7	68% / 2%	66% / 13%*	58% / 15%	29% / 50%
#17	60% / 4%*	50% / 23%	52% / 17%	65% / 13%
Coach B				
#27	50% / 10%	42% / 20%	62% / 23%	36% / 27%
#72	65% / 10%*	67% / 2%	0% / 0%	44% / 0%
#70	67% / 0%*	55% / 16%	67% / 33%	0% / 0%
Coach C				
#26	44% / 15%*	44% / 2%*	31% / 25%	78% / 11%
#73	27% / 23%	50% / 9%	61% / 11%	100% / 0%
#67	60% / 0%	44% / 0%	0% / 25%	33% / 0%
Coach D				
#64	35% / 27%*	25% / 30%	35% / 42%	0% / 100%
#66	19% / 52%	50% / 18%*	25% / 40%	72% / 0%*
#59	0% / 50%*	38% / 15%*	43% / 43%	34% / 20%

Note: Asterisk (*) denotes skills that were selected as Focus Skills by consultant-trainees.

Question 3

Perceptions of the Quality and Benefits of Coaching: How helpful did consultant-trainees find the coaching—in what ways, and for which skills?

Consultant-trainees' perceptions of the quality and benefits of coaching were assessed using four measures: Likert ratings of the quality of coaching, of skill development before and after coaching, and of the contribution of coaching to skill development; and open-ended questions about the types of coaching that were most and least helpful to skill development. In addition, coaches were asked to rate consultant-trainees' levels of skill development at the conclusion of the coaching experience. Because each measure examines the benefits of coaching from a slightly different perspective—coaching quality, skill development, coaching contributions, and beneficial types of coaching—the results for each are presented separately and then summarized as a whole.

Quality of coaching. Consultant-trainees rated the quality of coaching very positively. Over 90% of the consultant-trainees indicated that the coaching was relevant, effective, clear, and thorough (see Table 18). The thoroughness of the coaching was rated most positively, indicating that consultant-trainees felt the coaching covered all necessary areas and information. The ratings for effectiveness of coaching were most moderate but still quite high. A few consultant-trainees commented that they found the coaching very effective but still felt somewhat uncomfortable with their skills, and so they did not give it the highest rating. Overall, then, consultant-trainees reported very positive impressions of the coaching they received through the e-mail IC coaching course.

Table 18.

Consultant-trainee Feedback on E-mail Coaching: Quality of Coaching.

	Not at all . . . . . Very				
	1	2	3	4	5
Relevance of Coaching	0%	0%	3%	10%	87%
Effectiveness of Coaching	0%	0%	3%	28%	69%
Clarity of Coaching	0%	0%	0%	20%	80%
Thoroughness of Coaching	0%	0%	0%	7%	93%

Skill development. At the end of the coaching course each semester, consultant-trainees were asked to rate their level of skill in 13 content areas of IC, both (1) after summer training but before coaching, retrospectively, and (2) after coaching. Consultant-trainees' responses demonstrated that they definitely perceived their skills to improve from before coaching to after the coaching experience. Figure 1 depicts the percentage of consultant-trainees who rated themselves to be at the level of Skill Application or above (rating of 4 or 5 on the Rating of Skill Development form) for each skill, both before coaching and after coaching.

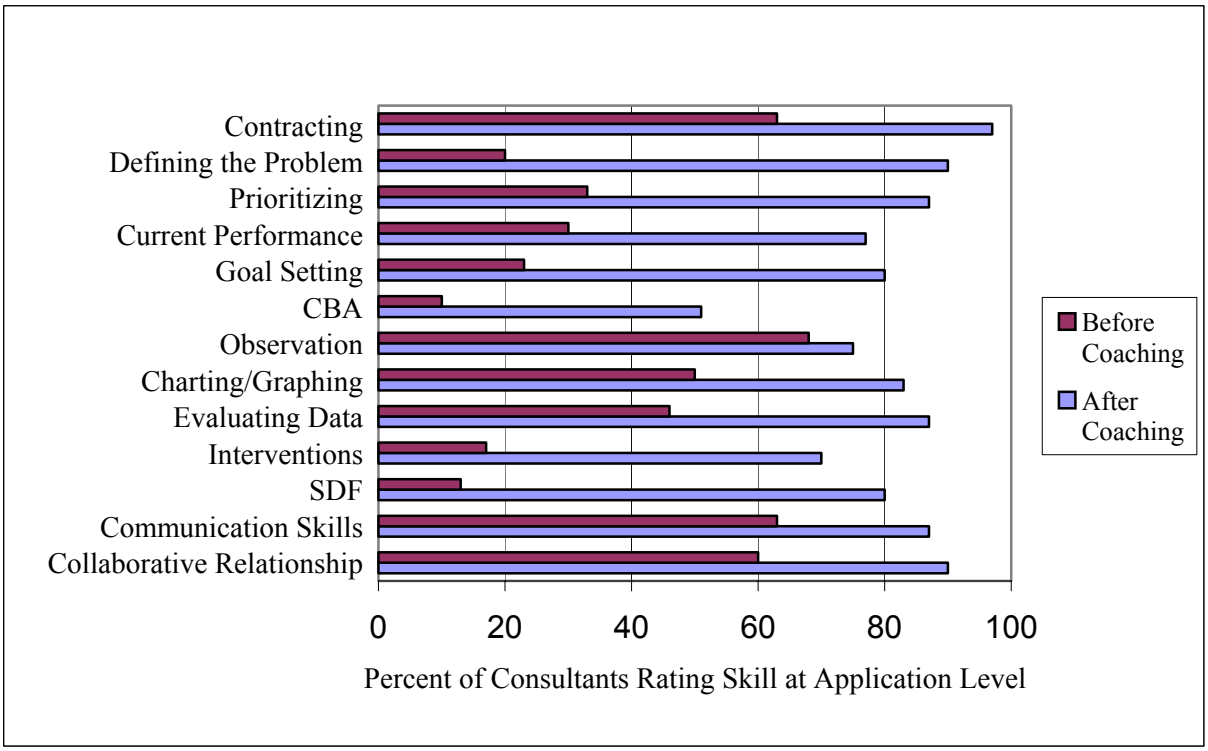

Figure 1.

Percentage of Consultant-trainees Who Rated Their Skills at a Level of Skill Application Before and After Coaching.

According to the results presented in Figure 1, consultant-trainees reported that all of their skills improved after coaching, but some skills increased much more than others. Specifically, *before* coaching, a high percentage of consultant-trainees rated themselves as already having attained skill application in the areas of Observation, Contracting, Communication Skills, and Collaborative Relationships. On the other hand, a very small percentage of consultant-trainees rated themselves at the level of skill application before coaching in the areas of Curriculum-based Assessment (CBA)/Data, Completing the Student Documentation Form (SDF), Designing Interventions, and Defining the Problem

Observably. These ratings likely reflected consultant-trainees' perceptions of their past knowledge and experience, as well as what they felt they had learned through IC training.

After coaching, the greatest number of consultant-trainees rated themselves at a level of skill application in the areas of Contracting, Collaborative Relationships, and Defining the Problem Observably. Once again, the fewest number of consultant-trainees rated themselves at the level of skill application for CBA/Data. Thus, while the relative ranking of the skills remained similar from pre- to post-coaching for many skills, some skills were perceived as improving much more than others. Specifically, over half of the consultant-trainees reported they moved from conceptual understanding or skill acquisition to skill application in the skills of Defining the Problem Observably, Completing the SDF, Designing Interventions, Goal Setting, and Prioritizing. Finally, three skills that many consultant-trainees rated high to begin with showed a more moderate increase in the percentage of consultant-trainees rating them at the level of skill application: Observation, Communication Skills, and Collaborative Relationships.

While it is clear that a large percentage of consultant-trainees indicated an improvement for many of the IC skills, it is also important to look at whether the growth reported is statistically significant. A dependent samples T-test was performed to determine the significance of the difference between the pre-coaching and post-coaching mean for each IC skill. The means and results of the T-tests are presented in Table 19. The results demonstrate that the change in the consultant-trainees' ratings of each skill from before coaching to after coaching was statistically significant for every skill at the .005 level. This indicates that, according to consultant-trainees' perceptions, their performance of every IC skill improved following IC coaching. Finally, to measure the

magnitude of the change, the Effect Size of the change was calculated for each skill as well.

Table 19.

Comparison of Pre-Coaching to Post-Coaching Ratings for Each Skill: Means, Significance, and Effect Size.

IC Skill	Pre-Coaching Mean	Post-Coaching Mean	T score	Effect Size
Contracting	3.63	4.57	7.99*	1.29
Defining the Problem	3.10	4.08	9.87*	1.86
Prioritizing	3.26	4.22	6.78*	1.20
Current Performance	3.13	3.98	9.46*	1.24
Goal Setting	2.97	3.98	7.94*	1.43
CBA/Data	2.30	3.47	8.07*	1.29
Observations	3.59	4.00	3.92*	0.41
Charting and Graphing	3.39	4/13	8.03*	0.81
Evaluating Data	3.52	4.18	6.17*	0.88
Designing Interventions	2.87	3.76	9.09*	1.35
Completing the SDF	2.55	3.98	10.50*	1.66
Communication Skills	3.60	4.38	5.32*	0.97
Collaborative Relationship	3.67	4.38	5.49*	0.89

* = significant at the .005 level

The results depicted in Table 19 illustrate that the Effect Sizes ranged from a low of 0.41 for Observation to a high of 1.86 for Defining the Problem Observably. All of the

skills, except for Observation, would be judged on Cohen's scale (1988) as having a "large" effect size; the Effect Size for Observation is considered a "medium" effect. The three skills with the largest Effect Size were Defining the Problem Observably, Completing the SDF, and Goal Setting. This indicates that the consultant-trainees perceived the greatest degree of improvement in these three areas. Overall, it is evident that the coaching was indeed effective at increasing the consultant-trainees' perceptions of their skills in every IC content area.

The second way that skill development was analyzed was in terms of the level of skill that consultant-trainees were able to attain after coaching, according to both consultant-trainees' and coaches' ratings. The goal of coaching is to help consultant-trainees apply their skills flexibly, so this was the criterion against which the data were judged.

The percentage of consultant-trainees rating their skills at a level of skill application (rating of 4 or 5 on the Rating of Skill Development form) after coaching ranged from 51% for the skill of CBA/Data to 97% for the skill of Contracting (see Figure 2). In general, most consultant-trainees—over 80%-- rated most skills to be at the level of skill application following coaching, with exceptions for the skills of CBA/Data, Observation, Current Performance, and Intervention. Coaches' ratings of consultant-trainees' skills fell within a similar range, from 52% of consultant-trainees demonstrating skill application for Goal Setting to 90% of consultant-trainees evidencing skill application for Observation. However, coaches rated 80% or more of consultant-trainees as demonstrating skill application for only four skills—Contracting, Prioritizing, Observations, and Evaluating Data. For most skills, coaches viewed between 60% and

70% of consultant-trainees as reaching the level of skill application after coaching and rated the remainder of the consultant-trainees as being able to demonstrate skills in some situations.

When comparing the coaches' and consultant-trainees' ratings of the consultant-trainees' skills after coaching, two findings are apparent: (1) in general, consultant-trainees rated themselves higher on most skills than coaches did, and (2) coaches and consultant-trainees had differing perceptions of consultant-trainees' performance of specific skills. That is, many more consultant-trainees than coaches rated consultant-trainees at the level of skill application for the skills of Defining the Problem Observably, Goal Setting, Communication Skills, and Collaborative Relationships. On the other hand, more coaches than consultant-trainees rated the consultant-trainees at a level of skill application for the skills of CBA/Data, Observation, and Interventions. This suggests that coaches and consultant-trainees held different perceptions of the consultant-trainees' attainment of several skills after coaching, although in general the difference was only between a rating of 3 (demonstrates skills in some situations) versus 4 (applies skills consistently).

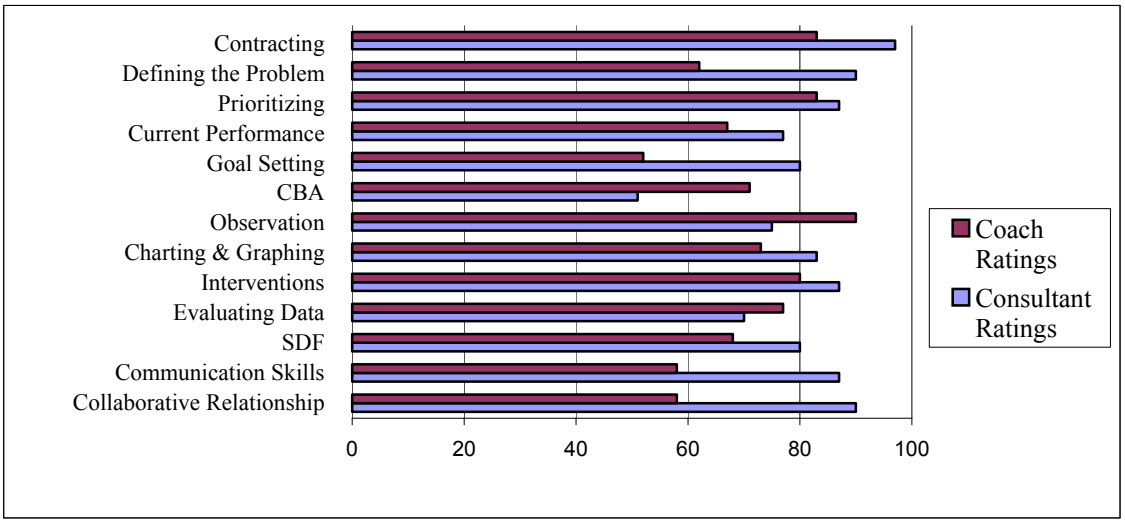

Figure 2.

Percentage of Coaches and Consultant-trainees Who Rated Consultant-trainees' Skills To Be at the Level of Skill Application (Rating of 4 or 5) After Coaching.

Overall, both coaches and consultant-trainees rated at least half of the consultant-trainees to have reached a level of skill application for all skills, and over 80% to have attained a level of skill application for the skills of Contracting, Prioritizing, and Evaluating Data. Moreover, consultant-trainees generally felt that the coaching helped them to reach a level of skill application for most skills, except CBA/Data. Coaches were more reserved in their ratings, judging that coaching helped many consultant-trainees to reach skill application and others to begin demonstrating skills. There were marked differences of opinion for the skills of CBA/Data, Defining the Problem Observably, Goal Setting, Communication Skills, and Collaborative Relationship.

Contributions of coaching. Consultant-trainees were also asked to rate the degree to which the coaching contributed to their development of each skill. This measure was

provided because skill development could be the result of many factors—the experience of taking a case, coaching, or even external support—and so this provided an indication of the importance of coaching to the development of each skill. The percentage of consultant-trainees who rated the coaching as not contributing (rating of 1), contributing somewhat (rating of 2), and contributing greatly (rating of 3) to each skill is depicted in Figure 3.

According to Figure 3, over 60% of consultant-trainees felt that coaching contributed greatly to developing the skills of Goal Setting, Designing Interventions, and Completing the SDF, and almost 60% rated coaching as contributing highly to developing skills both in Defining the Problem Observably and in Prioritizing. From the opposite perspective, over 40% of consultant-trainees felt that coaching did not contribute at all to their skill development in Observation, and almost 30% also felt that coaching did not contribute to improving skills in Contracting or Charting and Graphing. The ratings for the remainder of the skills were almost evenly divided between the percentage of consultant-trainees who thought coaching contributed greatly and those who felt coaching contributed somewhat to their skill development. Thus, it appears that consultant-trainees did not perceive coaching to contribute equally to the development of all IC skills, but rather it was seen to be most helpful for several Problem ID skills, Interventions, and the SDF, according to this rating scale.

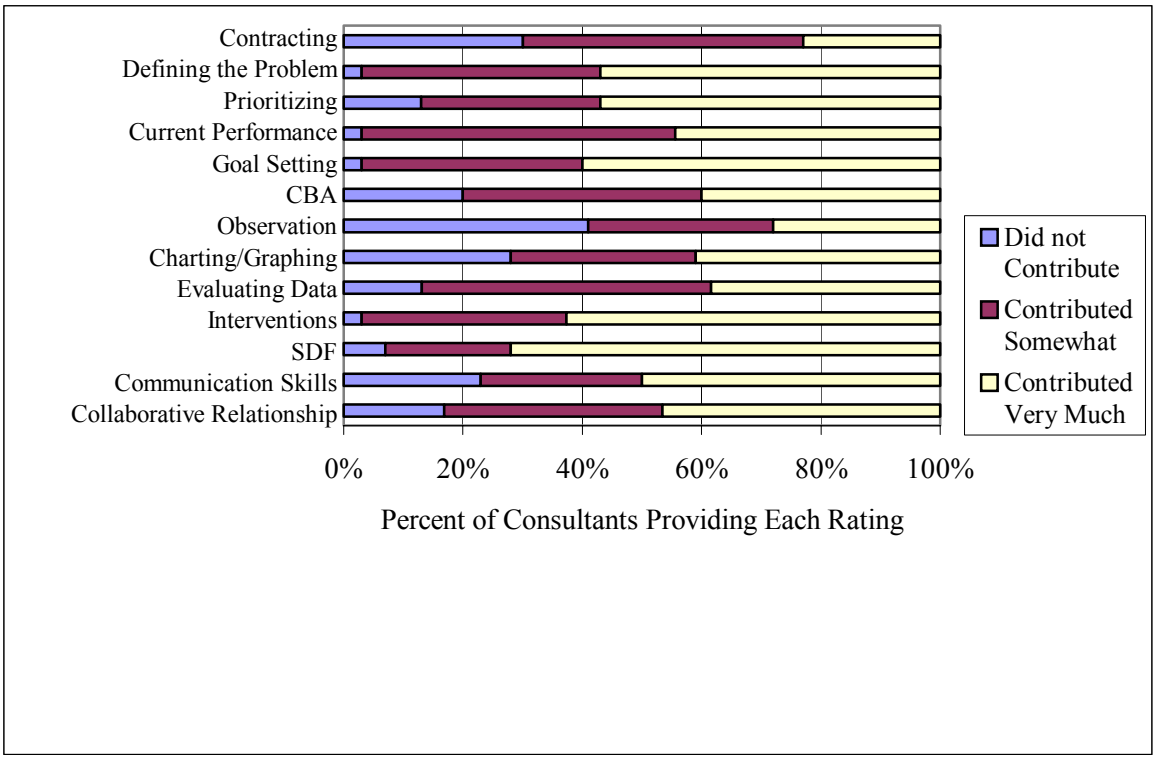

Figure 3.

Consultant-trainees' Ratings of the Degree to Which Coaching Contributed to Their Development of IC Skills.

Open-ended responses. Finally, consultant-trainees were asked to respond to open-ended questions asking what specific events and types of coaching were most and least helpful to their skill development. Consultant-trainees' responses fell into three broad categories: Content areas for which coaching was particularly helpful, Types of Communication Skills that were particularly beneficial, and logistical and content issues that compromised the benefits of coaching. These responses are summarized in Table 20.

Table 20.

Consultant-trainees' Open-Ended Responses: Helpful Types of Coaching.

Content Areas	Types of Communication Skills
Curriculum-based Assessment (8)	Positive/Critical Feedback (8)
Instructional Level/Match (4)	Encouragement/Support (8)
Communication and Collaboration (7)	Plan of Action (8)
Defining the Problem Observably (4)	Specific Feedback and Examples (5)
Data Collection (4)	Clarifications (2)
SDF (4)	Summaries (2)
Problem-solving Process (3)	
Graphing (2)	
Goal Setting (2)	
Interventions (2)	

Approximately one-quarter of the consultant-trainees listed Collecting and Analyzing CBA data and using Communication Skills to develop a Collaborative Relationship as the content areas for which the coaching was particularly beneficial. In addition, several consultant-trainees responded that the coaching was helpful for many Problem Identification skills—Instructional Level, Defining the Problem, Data Collection—as well as for documentation on the SDF. Of note, no consultant-trainees mentioned Entry and Contracting or Intervention Evaluation in their open-ended responses.

With reference to Types of Communication Skills that were listed as being particularly helpful, one-quarter of the consultant-trainees mentioned the following: Positive and Critical Feedback to let them know what they did well and what still needed to be completed; Encouragement and Support to continue with problem solving even when they were having difficulties; and guidance in developing a plan of action for the following meeting. In addition, several consultant-trainees indicated that coaching that involved specific feedback and examples was most beneficial.

Finally, when soliciting consultant-trainees' open-ended feedback on what types of coaching were not beneficial, 24 of the 30 consultant-trainees indicated that there was nothing that was unhelpful. Of the remaining six, three listed logistical difficulties: two reported that the timing of the feedback made it difficult for them to incorporate recommendations before their next meeting, and one of Coach A's consultant-trainees said that the feedback was too long to be able to use it effectively. Three consultant-trainees listed content areas for which the coaching was not particularly helpful; these included CBA and Completing the SDF.

Summary of quality and benefits of coaching. Consultant-trainees rated the quality of coaching very highly, in terms of its relevance, effectiveness, clarity, and thoroughness. When asked more specifically about their skill development and how coaching contributed, consultant-trainees painted a fairly consistent picture of which skills were most positively impacted by coaching. Consultant-trainees indicated that their *skills* increased most markedly in the areas of Defining the Problem Observably, Completing the SDF, and Goal Setting, and least in the area of Observation. Furthermore, a high percentage of consultant-trainees also indicated that the *coaching contributed*

highly to their skill development in the areas of Completing the SDF, Interventions, and Goal Setting, and contributed the least to Observation, Contracting, and Charting and Graphing. When considering the remaining skills that fell somewhere in between the most and least positive responses, the pattern generally held that the greater the perceived skill development, the higher the contribution of coaching ratings. An exception was noted for the skill of Contracting, which showed a marked skill increase but was rated lower for coaching contribution. Thus, there was substantial overlap between consultant-trainees' perceptions of which skills increased most markedly and those that the coaching impacted greatly, yet there were some differences that suggest that these two concepts are distinct.

Table 21.

Summary of Data on Benefits of Coaching for Specific Skills.

Most Frequent Responses	Skill Growth Ratings	Contribution of Coaching Ratings	Open-ended Feedback
Positive Responses	Defining the Problem Completing the SDF Goal Setting	Completing the SDF Interventions Goal Setting	CBA/Data Collaborative Relationship
Negative Responses	Observations	Observations Contracting Charting & Graphing	None

Finally, consultant-trainees' open-ended responses highlighted different skills—CBA and Collaboration—that the coaching benefited. This suggests that, while fewer consultant-trainees may have felt the coaching contributed significantly to these skills, those who did felt strongly that these were the greatest benefits of coaching. That is, *when* coaching was perceived as helping to improve CBA and Collaboration skills, it helped powerfully. These findings are explored more fully from a qualitative perspective in Question 4 below.

Question 4

What, if any, Was the Relationship between Coaching Styles and Consultant-trainees' Perceptions of the Benefits of Coaching?

A qualitative analysis of the coaching styles that appeared to be related to positive perceptions and outcomes of coaching was conducted in order to inform future e-mail coaching of IC skills. The coaching styles that were explored included the amount of coaching provided, the Types of Communication Skills used, and the pattern of coaching responses for each skill. Whether the consultant-trainee identified a Focus Skill and the consultant-trainee's pre-coaching rating of each skill was also considered. The perceived benefits of coaching included the consultant-trainees' ratings of the contribution of coaching to each skill, and the consultant-trainees' perceptions of their skill growth for each skill. Because these two measures yielded distinct results, the qualitative analysis was conducted separately for each measure (Contribution of Coaching and Skill Development). In addition, this analysis was performed at the level of the individual consultant-trainee, rather than at the level of the coach, which seemed to capture best the richness of the data.

Contributions of coaching: Which coaching styles were observed for content areas that were rated high versus low on the Contribution of Coaching scale? As presented earlier, each consultant-trainee rated the degree to which coaching contributed to her development of 13 IC skills. For the 12 consultant-trainees included in this portion of the study, this yielded a Contribution of Coaching rating for a total of 156 skills. The 12 consultant-trainees rated the coaching as contributing "a great deal" to their skill development (rating of 3) for just under 50% of the skills (75 out of 156). Of note, two consultant-trainees marked all skills with the highest rating, making it difficult to discern for which skills they felt the coaching was *particularly* helpful. To differentiate between coaching that was generally helpful versus particularly helpful for these two consultant-trainees, their open-ended responses were reviewed. Together they listed nine content areas for which the coaching was particularly beneficial; thus, only these nine skills were included in this part of the analysis for these two consultant-trainees, for a total of 58 skills that were very positively impacted by coaching. A summary of the data on which this analysis is based is found in Table 22.

This extensive analysis revealed certain coaching styles to be present for content areas that the consultant-trainees rated high on the Contribution of Coaching scale. First, the Type of Communication Skills used appeared to be important. For each of the 58 skills for which the consultant-trainees rated the coaching as highly beneficial, the coaches used a mixture of communication skills—Information/Suggestion, Positive Feedback, Observation, Reflective Questions, Two-way communications, etc. The coaching always included Information/Suggestion—this was necessary for it to be considered helpful—and frequently included Positive Feedback, along with a mixture of

other skills. Second, for 47 of the 58 content areas (81%) for which the consultant-trainees rated the contribution of coaching most positively, the consultant-trainees' pre-coaching skill ratings for the content area fell below the level of skill application (rating of 3 or below). That is, consultant-trainees for the most part felt that coaching was more beneficial for content areas in which they (retrospectively) did not feel as skilled before coaching. For the 11 content areas that consultant-trainees rated positively for contribution of coaching that had a pre-coaching rating of 4 or more, it was noted that either the consultant-trainee had listed it as a Focus Skill (self-identified need), or the coach had given the consultant-trainee specific feedback indicating that the content area was a need based on the context of the case. Therefore, it appears that coaching was perceived as more helpful for skills that the consultant-trainees identified as needs.

Table 22.

Summary of Themes of Coaching Styles and Ratings of Contributions of Coaching.

Coaching Style	Contributed (Rating of 3)	Did Not Contribute (Rating of 1)
Amount of Feedback	Range of 4 – 143 references Mean = 31.9, SD = 36.3	Range of 0 – 76 references Mean = 30.0, SD = 28.0
Type of Communication Skills Used	Mixture of types; always includes Info/Suggestion	Predominantly Positive Feedback
Pattern of Feedback	No discernible pattern	No discernible pattern
Identified as Focus Skill?	27.6% (16 of 58)	20.8% (5 of 24)
Pre-coaching Skill Rating	81% rated 3 or below 19% rated 4 or above	25% rated 3 or below (CBA/Data) 75% rated 4 or above

The 12 consultant-trainees rated the coaching as not at all helpful (a rating of 1 on the Contribution of Coaching scale) for 24 content areas. The following coaching styles were observed for the content areas for which the coaching was not perceived as beneficial. First, the Type of Communication Skills used to provide coaching was again important. Low ratings on the Contribution of Coaching scale were associated with coaching that involved predominantly or solely Positive Feedback. Second, with reference to content areas for which the consultant-trainees did not find the coaching helpful, consultant-trainees frequently rated themselves as already being able to apply the skill before the coaching. Taking these two findings together, it appears that the provision of only Positive Feedback either created or reinforced the consultant-trainees' perceptions that they were already skilled in that area, in which case the coaching was not found to be helpful. The only exception to this finding was for the skill of Curriculum-based Assessment/Data (see Table 23). Four of the twelve consultant-trainees rated the coaching as not at all helpful for this content area; yet in each case, Information/ Suggestion and a mixture of other communication skills was provided, and the consultant-trainee identified the skill before coaching as below the level of skill application. Thus it appears that specifically for the skill of Curriculum-based Assessment/Data, coaching was in several cases not found to be helpful even when it involved the attributes generally found to be helpful for other skills. This bears further exploration.

Finally, several factors were found to be irrelevant to the consultant-trainees' ratings of the contributions of coaching. Specifically, a comparison of the amount and pattern of coaching provided for content areas that were rated high versus low on the

Contribution of Coaching scale did not reveal any discernible differences. In sum, then, several specific coaching styles were found to vary systematically with the consultant-trainees' ratings of the contributions of coaching. These findings are summarized in Table 23 below.

Table 23.

Comparison of Coaching Styles for Content Areas Rated High versus Low on the Contribution of Coaching Scale.

Coaching *contributed* when it…	Coaching *did not contribute* when it…
• Involved a mixture of types of feedback, always including Information/Suggestion • Was provided for skills that consultant-trainees rated as below the level of skill application before coaching	• Involved predominantly Positive Feedback • Was provided for skills that consultant-trainees rated as at the level of skill application before coaching
• These findings did not apply to the skill of collecting CBA data.	

Skill development: Which coaching styles were observed for skills that consultant-trainees rated as increasing to the level of skill application versus skills that did not increase? For the 12 consultant-trainees included in this portion of the study, 28 skills (19%) were rated as increasing by two or more points (from a 2 to a 4 or from a 3 to a 5) from pre- to post-coaching on the Skill Development Scale. On the other hand, 23 skills (16%) did not demonstrate an increase and remained below skill application (rating

of 3 or below) following coaching. The coaching styles that were associated with these two sets of skills were analyzed. A summary of the data used to make interpretations is found in Table 24.

Table 24.

Summary of Themes of Coaching Styles and Ratings of Skill Development.

Coaching Style	Skill Growth 2+ Points N = 28	Skills Below Application N = 23
Amount of Feedback	Range of 4 – 154 references Mean = 37.9, SD = 35.2	Range of 1 – 79 references Mean = 20.9, SD = 20.6
Type of Communication Skills Used	Specific Info/Suggestion and Positive Feedback	Mixture of types—General Feedback
Pattern of Feedback	Begins w. Info/Suggestion, ends w. Positive Feedback	No discernible pattern
Identified as Focus Skill?	39.3% (11 of 28)	8.7% (2 of 23)
Pre-coaching Skill Rating	All rated 3 or below	All rated 3 or below

The analysis revealed the specific coaching styles that were observed for skills that consultant-trainees rated as increasing by two points from below skill application before coaching to the level of skill application after coaching. Most notably, the Type and pattern of Communication Skills used were critical. Coaching that involved *specific* Information/Suggestion for how to perform a skill in the initial stages of coaching, and that later evolved into *specific* Positive Feedback for having performed the skill correctly,

was observed when consultant-trainees indicated marked skill growth. This type and pattern of coaching may have communicated to consultant-trainees that their skills had improved. The specific Information/Suggestion often involved a model of how to perform the skill; for example, "An observable/measurable statement might be 'the percent of words the student can read automatically (within 5 seconds) from stories in the classroom reading series'." Furthermore, the specific Positive Feedback typically included an example of what the consultant-trainee had done well, such as "Your observable/measurable statement is much clearer now—it is specific enough that I could walk in and collect the data myself." Thus, both specificity and the type and sequence of coaching appeared to be the key coaching styles associated with consultant-trainees' perceptions of marked skill improvement. It was also noted that it was more common for consultant-trainees to have identified skills that markedly increased as Focus Skills than to have identified skills that did not increase as Focus Skills, but it certainly was not the case that having identified a content area as a Focus Skill was a defining factor of skills that increased markedly.

From the opposite perspective, coaching styles associated with skills that did not increase to the level of skill application tended to involve very general directions and feedback. Examples include: "You need to work towards making this statement more observable and measurable," and "Your observable/measurable statement looks fine." In addition, the coaching for these skills that remained below skill application did not follow a sequence that documented progress in the consultant-trainee's performance of the skill; rather, it involved a mixture of communication skills from beginning to end. Finally, although there was a difference in the average amount of feedback provided for the skills

that did increase versus those that did not increase to the level of application, there was such great variability in the amount of feedback overall that the difference did not appear to be meaningful.

In sum, then, the coaching styles that were observed for skills that consultant-trainees rated as increasing markedly involved specific rather than general feedback and followed a sequence from Information/Suggestion to Positive Feedback that suggested a progression in skills (see Table 25). Consultant-trainee ratings of skill improvement did not appear to be associated with any specific amount of feedback, nor was it necessary for the consultant-trainee to have identified the skill as a Focus Skill, although this was more common for skills that were rated as increasing.

Table 25.

Comparison of Coaching That Was and Was Not Associated with Skill Growth.

Coaching associated w. skill growth	Coaching associated w. skills below application
• Specific feedback, w. models and examples • Followed a sequence from Info/ Suggestion to Positive Feedback	• General feedback • Followed no specific sequence or progression

Spotlight skill: Collecting curriculum-based assessment data. The skill of Curriculum-based Assessment (CBA)/Data stood out in the analysis in many respects. First, this skill alone did not follow the pattern noted with content areas for which consultant-trainees rated the coaching as beneficial. Second, CBA/Data was represented equally in the consultant-trainees' positive and negative ratings of the contributions of

coaching, yet in the open-ended feedback several consultant-trainees remarked how helpful the coaching had been to their application of this skill. Thus, a more thorough analysis of the coaching provided on the skill of CBA/Data was conducted in order to examine which coaching styles were and were not beneficial for this particular skill.

There were three coaching styles in combination that appeared to differentiate between CBA/Data feedback that was associated with perceived skill development and positive ratings of coaching and CBA/Data feedback that was associated with perceived skill retention and more moderate ratings of coaching. These three factors were specificity, context, and timeliness. Each will be described in turn.

As discussed above, specificity refers to the extent to which the coach offered clear and specific suggestions and feedback. With the skill of CBA/Data, specificity entailed more than a simple direction to perform a CBA, as the consultant-trainees already knew that was an expectation; rather, it involved specific information about how to perform a CBA. General directions were inadequate, as they were judged by consultant-trainees to be insufficient to assist them with skill application. Examples of general statements made in reference to CBA/Data found in the e-mails of consultant-trainees who rated the coaching for the skill of CBA/Data poorly are as follows:

- "When the perception is that a student is doing as well as he can, it is always a good idea to be sure that he has all the skills he needs to be successful. Skills are a teachable piece of improving academic achievement."
- "Data are very useful to answering the instructional level question. Essentially this asks the question—does the student have the pre-requisite skills to complete the tasks? This would mean checking to see if the student can read the books he's

selecting."

- "You need to check to see if the student is at instructional level in reading."

On the other hand, directions that provided specific information about how to perform a CBA were critical to help the consultant-trainee both to perceive the coaching as beneficial and to apply the skill. Specific directions might involve describing the purposes of CBA data collection, summarizing the steps of CBA, providing information about how to perform a CBA, or assisting with the analysis of the CBA data. Examples of specific statements found in the e-mails of consultant-trainees who rated the coaching for CBA/Data positively are as follows:

- "Collecting CBA data can often help us to identify the problem in more observable and measurable ways. I heard the teacher and you looking at the student's work and past tests in order to try and find out what she knows and doesn't know in the area of concern. I also heard you saying that you wanted to break down the skills the student needs to complete the expected task and find out which of those skills she has or doesn't have. It sounds like you have a good handle on the type of CBA you want to do."

- "You might want to do a running record in line with the IC format: determine a workable passage, check listening comprehension, have the student read in 1 minute increments and record accuracy (percent correct words), fluency (number of correct words in a minute), and comprehension."

- "If the student is reading with 93-97% accuracy, good fluency (see CBA section of manual, p. 39), and can respond to at least 8 of 10 comprehension questions, then he is being instructed at an appropriate level *and* does not evidence academic skill issues. If the % accuracy is off one way or the other, the teacher may need to adjust his reading material to give him a more appropriate level but there still may not be an academic skill issue. However, if the student demonstrates poor fluency or comprehension when he is reading at 93-97% accuracy, then there is a skill issue to work on."

Along with specificity, the feedback must help the consultant-trainee determine how to do CBA *within the context of the case*. That is, it needs to be very targeted to the consultant-trainee's specific needs within the case. Feedback that specifically tells how to

perform CBA but that does not relate to the context of the case is, again, not helpful and does not lead to skill application. Examples of feedback that is both specific and targeted follow:

- "You addressed the concern, 'Since he identifies every letter as "c" does he really know his letters?' This is an excellent question: What letters can this child VERBALLY ID, non-verbally ID, and how many can he write when told to do so. The teacher is not really able to tell you that info at this point—so WHAT DOES THE CHILD KNOW?"

- "In terms of comprehension, there are different levels of assessing comprehension. The highest level is when the student can retell the story spontaneously and make inferences about the material. If the student has difficulty with that, we can see how direct questions help…"

Finally, the timing of feedback on CBA is important. Specific, targeted instructions on how to perform a CBA are not helpful if they come too late within the case. For example, Consultant-trainee #7 received very specific, targeted information and suggestions on CBA from Coach A. However, these were not provided until the third e-mail, after Consultant-trainee #7's third meeting with the teacher. Since she was ready to establish goals and begin designing interventions, the feedback was not helpful to her and did not increase her CBA skill application. Thus, coaching that led to CBA skill application involved specific, targeted feedback or suggestions provided within the first three e-mails, typically concentrated in the second. The implications of these findings for CBA coaching are discussed in Chapter 5.

Question 5

Perceptions of the Use of E-mail for Coaching: What were the positive and negative aspects of using e-mail for coaching Instructional Consultation skills?

Coaches and consultant-trainees responded to a rating scale and questions about the use of e-mail for coaching IC skills. Table 26 presents the rating scale results. Overall, coach and consultant-trainee ratings were positive. Specifically, 100% of coaches and 84% of the consultant-trainees found e-mail easy and accessible to use. Furthermore, almost 100% of consultant-trainees responded that they were comfortable with using e-mail for coaching, while three of the four coaches indicated comfort. The coach who rated this lower wrote that it was uncomfortable to provide feedback without being able to view the recipient's reaction. This may also relate to the next question, which pertained to the ease of understanding or conveying complex information via e-mail. This question was rated the lowest by both consultant-trainees and coaches, although fully 80% of the consultant-trainees indicated ease, whereas only 50% of coaches did. Coaches and a few consultant-trainees expressed difficulty communicating about complex skills such as CBA/Data or completing the SDF. Finally, most consultant-trainees rated the usefulness of re-reading and reflecting on e-mail very highly.

In response to open-ended questions about the positive and difficult aspects of the on-line coaching experience, both coaches and consultant-trainees provided a few additional comments about the use of e-mail for coaching. Consultant-trainees listed several positive aspects of using e-mail for coaching: the accessibility of the coach ("Only a fingertip away"), having time to reflect on the feedback, and being able to refer back to a written document when planning next steps. One coach appreciated the fact that

e-mail allowed participation from a distance. The challenging aspects of using e-mail for coaching mentioned by consultant-trainees included difficulty with accessing computers, the amount of time required to listen to tapes and write reflections, poor efficiency in sending/receiving tapes and responses, and the difficulty of communicating about complex skills such as CBA and data collection without reviewing the materials together. Coaches echoed the latter two responses. Although only one to three participants listed each comment, they help to further clarify the ratings described above.

Table 26.

Coach and Consultant-trainee Feedback on the Use of E-mail.

	Coach Ratings			Consultant-trainee Ratings		
	Not at all . . . . . Very			Not at all . . . . . Very		
Ease of using e-mail	0%	0%	100%	3%	13%	84%
Level of comfort w. e-mail	0%	25%	75%	3%	0%	97%
Ease of understanding/ conveying complex info	25%	25%	50%	3%	17%	80%
Usefulness of re-reading & reflecting on e-mail	N/A	N/A	N/A	0%	7%	93%

Overall, consultant-trainees and coaches found the use of e-mail to be an easy, comfortable, and indeed practical format for providing and receiving coaching support. However, there are some difficult aspects to using e-mail for coaching, such as

time/efficiency and communicating about complex information, that merit further consideration and future action; these are discussed in Chapter 5.

Chapter 5

DISCUSSION

A Grounded Theory of E-mail IC Coaching

The data analyses from the five questions examined in this study can be interwoven to create a grounded theory of the e-mail IC coaching process. The story begins with the themes, styles, and behaviors that characterized the coaches' e-mail responses to the consultant-trainees learning IC. The coaches used predominantly directive types of responses, especially Information/Suggestion and Positive Feedback; and they focused mostly on the skills of CBA, Collaboration, and Defining the Problem Observably, although there was some variation among the coaches. The data and literature suggest several factors that potentially contributed to this style of coaching. It may be that the coaches provided more feedback and direction for skills that are particularly complex and difficult to master, or when they perceived the consultant-trainees to be novices at applying a skill; or perhaps the use of e-mail as the primary medium for communication may have affected or constrained the coaches' behavior.

Consultant-trainees' and coaches' perceptions of the e-mail coaching process and outcomes moved the story forward. Consultant-trainees rated all of their IC skills as improving significantly following coaching. Nevertheless, they also indicated that the coaching impacted specific skills differently—they were able to apply some skills more easily than others, and coaching contributed to their development of some skills more than others. Interestingly, the skills that fewer consultant-trainees perceived they were able to apply corresponded closely with those that received more feedback and that are believed conceptually to be more complex and difficult to apply. In addition, in follow-up

discussions, the coaches indicated that they did in fact differentiate their responses to consultant-trainees based on their perceptions of the consultant-trainees' skills and needs. Finally, both coaches and consultant-trainees remarked on the fact that, while e-mail was easy to access and comfortable to use, it was more difficult to communicate about complex information via e-mail. Thus, it appears that the directive coaching styles observed here reflected to some extent the novice level of the consultant-trainees and the difficulty level of the IC skills, while the consultant-trainees' application of skills was impacted in part by the complexity of certain skills and the difficulty of discussing them via e-mail.

The final and most in-depth level of analysis, which involved triangulating the rating scale and open-ended feedback with the qualitative analysis, helped to complete the story by generating hypotheses regarding the types of coaching that were associated with positive consultant-trainee responses. First, although it appears that coaches provided feedback according to their perceptions of consultant-trainees' needs, it seems that consultant-trainees themselves must perceive a skill to be a need in order to find the coaching helpful. Second, coaching that involved Information/Suggestion that was later followed up by Positive Feedback for the skill was associated with consultant-trainees' perception that their skills improved, perhaps because it demarcated a progression in skills. It is not clear what the impact of using more collaborative communication styles, which have been found to be effective in the literature, may have been, since these were infrequent in the current study. Third, the specificity of the coaching, in terms of the clarity of the directions or feedback, was critical to skill development. Fourth, CBA appears to be a particularly difficult skill to apply and to coach by e-mail, and more

information is needed in this area. Fifth and finally, the use of a single e-mail coaching response appears to make discussion of complex topics more difficult; and its unidirectional nature may complicate the process of assessing and targeting the consultant-trainees' needs in some situations.

The above synthesis provides a grounded theory of e-mail IC coaching and offers hypotheses that have implications for future e-mail IC coaching and for future research. The following discussion explores each question and theme in more detail and in relation to the literature. Finally, specific recommendations and research directions are presented at the end of the chapter.

Summary and Interpretation of Results

Question 1: The Art of Coaching: What themes, styles, and behaviors characterized coaches' e-mail responses to consultant-trainees learning Instructional Consultation skills?

The coaches' e-mail responses to the consultant-trainees were characterized by three central themes: the types of communication skills the coaches used, the content focus of their communications, and the length of the e-mail communications. Specific coaching styles and behaviors were apparent in each of these areas, which are discussed within the context of each theme below.

Type of communication skills used. Three of the four coaches used predominantly Information/Suggestion and Positive Feedback in their coaching e-mails, which are typically identified as directive communication styles (see Borders, 1991; Kagan, 1988). While this finding is consistent with the literature on supervisors' behaviors during teacher and counselor supervision (Borders, 1991; Holloway & Wampold, 1983;

Zeichner & Liston, 1984), it is discrepant from some conceptualizations of coaching (Schon, 1987) and from the collaborative stance espoused by IC. This raised questions about whether this process represents coaching or supervision, and what contributed to the use of a more directive communication style.

With regard to the former question, there is no uniform definition of either supervision or coaching in the literature. Generally speaking, supervision involves a hierarchical relationship, as between professor and student or employer and employee, with the dual goals of evaluation and improving supervisee performance. Coaching, on the other hand, is a professional development technique designed to help practitioners to apply newly learned skills within their work setting. Descriptions of supervision and coaching contrast the hierarchical versus collaborative nature of the relationship (Showers et al., 1987), the distance versus immediacy of the interaction (Bowman & McCormick, 2000), or the practice of teaching versus reflecting on action (Schon, 1987). By these definitions, the coaches' behaviors observed in the current study had elements of both supervision and coaching, as they maintained a professional development focus that is consistent with coaching, yet it was provided in a more directive style that is characteristic of supervision.

However, several authors recognize that providing direction is not, in itself, inconsistent with coaching. For instance, Showers et al. (1987) indicated that coaching can be provided by either a peer or a technical expert, who uses her/his expertise to inform and guide the coaching process. In addition, Schon (1987) suggested that coaching should involve *modeling* reflection in action when the focus is on learning new concepts, which is a more directive style of coaching. It appears, then, that directive

responses can indeed be compatible with a coaching framework. Thus, given the emphasis of e-mail IC coaching on helping practitioners to apply new skills in the work setting within a professional development framework, as well as the attempt to maintain a collaborative approach by encouraging the consultant-trainees to select Focus Skills for feedback, the designation of this process as "coaching" rather than "supervision" appears appropriate.

The second question thus becomes why three of the four coaches used more directive types of communications when they were engaged in a *coaching* process. The literature suggests two possibilities: that this was due to the use of e-mail as the tool for communication, or that this was in response to the consultant-trainees' need for direction. First, it is possible that the use of e-mail as the medium for coaching may have constrained the coaches' choices of types of communication skills to use, due to its unidirectional nature. In fact, Kruger et al. (2001b) suggested that the use of e-mail does limit supervisor behaviors, such that it is most possible to impart conceptual information and feedback; but it is difficult to provide practice or observation. In Kruger et al.'s (1996) study of practitioners providing peer support for consultation by e-mail, they found the predominant types of communications to include observation-based or factual information, suggestions, personal information, and specific feedback, which is similar to the results reported here. This lends support to the possibility that the use of e-mail prescribes these more directive types of communications; however, since the current study did not explore this hypothesis specifically, this should be examined through future research.

It is important to note that one of the coaches—Coach C—used more non-

directive types of communication skills, such as Observations, Reflective Questions, and Support, than the other three coaches. This suggests that these types of skills are possible on e-mail, and further reflects a critical stylistic difference between the coaches that bears exploration. A review of the coaches' background information and experiences did not reveal any training or practice distinctions that might account for this difference. Rather, it seems to represent simply a stylistic preference and an active attempt to make the e-mail coaching process more interactive. This finding is significant in that it suggests that the use of a directive communication style by the other three coaches may have been due to factors other than the use of e-mail. One hypothesis is that the coaches tailored their level of direction according to their perceptions of the consultant-trainees' needs. This possibility is explored more fully under Question 2 below, which examines how coaches differentiated their feedback to consultant-trainees.

Content of the coaching responses. In the current study, the coaches devoted the most feedback to the Problem-solving Stages and Steps, followed by Skills and Strategies. Since most of the content was codable into these two categories, the Other category contained the fewest responses. With reference to specific skills, Curriculum-based Assessment (CBA)/Data, Collaborative Relationship, and Defining the Problem Observably received the most feedback overall. Skills that received the least amount of feedback in general included Prioritizing, Current Performance, Graphing, Entry and Contracting, and Observation.

When comparing the coaches' content focus in the current study with Rosenfield and Gravois' (1993) synthesis of the literature on consultation training, an important difference can be noted. Rosenfield and Gravois found that, in addition to core

components such as problem solving, communication, data, assessment, and intervention, consultation training often involves addressing ethical issues and understanding the context and culture in which consultation is delivered. While these two topics were included under the Other Content category, they represented less than one percent of the feedback, as coaches rarely provided comments in these areas. This suggests that the coaches focused on facilitating consultant-trainees' application of the IC process specifically, rather than on helping the consultant-trainees to navigate their changing role within the school. This likely reflects the fact that IC skill application was the goal of this portion of the training, and the coaches maintained integrity to the IC coaching manual guidelines.

Given that the coaches focused their efforts specifically on helping consultant-trainees to apply the IC process, their emphasis on specific skills must be analyzed from the perspective of the IC model. The fact that the coaches generally provided more feedback in the areas of CBA/Data, Collaborative Relationship, and Defining the Problem Observably makes sense within the context of the IC model. These areas represent the foundation of IC. During introductory presentations on IC, these topics are identified as three of the central components of IC training (T. Gravois, presentation, March 20, 2003). Thus, these three core aspects of the IC process received the most attention from the coaches due to their own training and experience with the model.

Furthermore, the greater amount of feedback devoted to specific skills may reflect the fact that some skills take longer and are more difficult to develop than others. As noted earlier, the need for training may not be equivalent for all skills. Indeed, Curtis and Zins (1988) found that the skill of Specifying the Behavior in Objective Terms benefited

most from training plus feedback, whereas the skill of Questioning improved with training alone. Their results suggest that the skill labeled here as Defining the Problem Observably requires more feedback and may indeed be more difficult to apply than other skills. The same may be true of developing a Collaborative Relationship and conducting CBA, which developers and practitioners of IC believe to be some of the most difficult skills to learn within the process. In addition, these skills tend to be ongoing, extending throughout several consultation sessions, rather than discrete; and so, by virtue of their ongoing nature, they may require more feedback over time.

On the other hand, skills such as Current Performance and Entry/Contracting, which received less feedback, tend to be more discrete and can often be accomplished in one session. They are also more concrete and require less analysis than the above skills. Given their discrete and concrete nature, they do not appear to be as difficult to understand or apply and therefore may require less feedback.

Thus, the skills that coaches focused on the most seem to reflect the core foundation of the IC process. Furthermore, they may be the skills that are most difficult to apply and that are ongoing across sessions, creating the need for more feedback. The accumulated experience of the IC developers and practitioners suggests that this is a likely explanation and therefore a reasonable focus for the coaching. However, it should be noted that there was some variability in the relative amount of coaching different consultant-trainees received on specific skills, which will be discussed in Question 2.

Volume. While the average length of the e-mail messages sent by coaches to consultant-trainees was 48.2 sentences long, there was a great deal of variability in the length of the messages, both in relation to the stage of problem solving addressed and the

coach who wrote the message. Specifically, all four coaches provided more feedback during Problem Identification (ID) and Analysis than during any other stage. Furthermore, Coach A wrote lengthier e-mail messages than the other three coaches. These sources of variability bear further discussion.

One reason for the greater amount of feedback for Problem ID relative to the other stages was simply that consultant-trainees spent more of their time in that stage. This is appropriate within the IC model; during the IC training workshop, participants are instructed that Problem ID accounts for "90% of the effort in problem solving and is the most important stage" (Gravois et al., 1999a). Indeed, consultant-trainees sent more tapes for Problem ID than for any other stage, often surpassing the requirement of two tapes. Beyond simply the amount of time devoted to this stage, the amount of feedback provided for Problem ID may also reflect the difficulty that consultant-trainees experience with navigating this stage, as the developers of IC hold that Problem ID is not only the most important but also the most complex stage (S. Rosenfield, personal communication, May 27, 2003). Two facts support this hypothesis; first, even when the number of e-mail messages was held constant, coaches wrote lengthier e-mails during Problem ID than during the other stages. Second, over half of the consultant-trainees' questions and selected Focus Skills were in the area of Problem Identification. In all, it appears that more feedback was provided during Problem ID because this is the lengthiest and perhaps most difficult stage of the IC Problem-solving Process.

With reference to the differences among coaches in the length of their e-mail messages, there is no literature available to evaluate what message length is most beneficial. However, two related pieces of data should be noted. First, all four coaches

received very high ratings for "thoroughness of e-mail" on the Feedback for Online Coaching Experience form. This suggests that Coach A's lengthier e-mails were not perceived as more thorough by her consultant-trainees than the other three coaches' shorter e-mails were by their consultant-trainees. Second, one of Coach A's consultant-trainees commented that the e-mails were too lengthy, making the feedback difficult to incorporate effectively. Thus, anecdotal evidence suggests that the e-mails that ranged between one to two pages were perceived as thorough and perhaps as easier to understand and integrate (see Recommendation #10).

The reason the coaches gave for writing longer e-mails at times was because of the complexity of the process at certain steps and their uncertainty knowing how much information the consultant-trainee needed to apply a skill. When a consultant-trainee performed a skill inadequately, the coach had to ascertain if this was due to a lack of conceptual understanding or to a skill need and to make a decision about how much conceptual information to provide. In the absence of bi-directional communication with the consultant-trainees, three of the coaches provided succinct directions with minimal information about their purpose or use, while Coach A typically elected to provide additional information in case it would be helpful. Clearly further research is needed to determine the most beneficial length and depth of e-mails; nevertheless, this analysis implies that incorporating interactive methods to help coaches assess the consultant-trainees' conceptual understanding might improve their ability to tailor the amount of conceptual information to the consultant-trainees' needs (see Recommendation #1).

Question 2: Did Coaches Differentiate Their Coaching to Consultant-trainees, and, if so, Was This Based on the Consultant-trainees' Selection of Focus Skills?

The results of the open coding of the coaches' e-mail responses indicated that coaches did differentiate their feedback to consultant-trainees, by providing more and different types of coaching on specific skills to some consultant-trainees than to others. This did not appear to be mostly or solely based on the consultant-trainees' requests for feedback on specific Focus Skills. Therefore, other possible explanations for the differentiation in coaching were explored.

The literature on supervision suggests that supervisors may need to differentiate their feedback to trainees, based on either the trainee's level of development or in concurrence with the stages of consultation. According to developmental models, supervisors should provide more directive types of supervision initially as trainees first apply skills, while more non-directive and collaborative forms may be appropriate as trainees become more skilled. This developmental approach has been applied to both supervision (Stoltenberg, 1993) and coaching (Schon, 1987). Specifically, these models propose that during the phase of learning new concepts supervisors provide more prescriptive information, modeling, role playing, and positive feedback (Stoltenberg, 1993); and coaches model reflection in action (Schon, 1987). As trainees begin to refine their skills, supervisors offer more process comments (Stoltenberg, 1993), while coaches engage in collaborative inquiry through joint experimentation (Schon, 1987). Finally, as trainees reach the level of integrating skills, supervisors take on a more facilitative role (Stoltenberg, 1993), and coaches shift perspectives with their trainees (Schon, 1987).

Another explanation offered by Conoley (1981) that is specific to consultation

supervision is that supervisors' behaviors change according to the stage of consultation. During Entry, supervisors offer information on roles and provide feedback on the consultation relationship; in Problem ID, supervisors illustrate interviewing skills and goal setting through example; during Intervention, supervisors supply technical information on strategies as needed; and during Evaluation, supervisors facilitate case studies. Within this framework, the supervisor typically maintains a teacher role, because the skills and knowledge to be applied change with each stage of consultation.

Through a detailed analysis of the coaching e-mails and discussions with the coaches, it appears that the coaches did differentiate their feedback to consultant-trainees in a manner consistent with the models presented above. Specifically, coaches seemed to provide additional or different types of feedback based on their own perceptions of the consultant-trainees' needs. Typically, the coach defined a particular content area as a need for the consultant-trainee based upon observations of the consultant-trainee's skills on the tapes and the documentation, even if the consultant-trainee had not expressed a need in that area. For example, Consultant-trainee #67 designed Interventions immediately after Defining the Problem, without establishing Current Performance or Goals. This led Coach C to identify Current Performance as an area of need for Consultant-trainee #67, and thus she provided more feedback for that skill to this consultant-trainee than to her other two consultant-trainees. Coach C also used different types of communication skills to address Current Performance with Consultant-trainee #67; she used Reflective Questions and Observations to stimulate Consultant-trainee #67's awareness of her omission, which is an example of modeling reflection in action,

rather than using Information/ Suggestion as she did predominantly with her other two consultant-trainees.

A similar series of events occurred with Consultant-trainee #59. This consultant-trainee also jumped directly from an Initial Description of the Concern to developing an Intervention. Coach D identified this as a skill need, and she provided relatively more coaching to Consultant-trainee #59 in the areas of Current Performance and Completing the Student Documentation Form (SDF) than she gave to the other two consultant-trainees whom she supervised. In this instance, Coach D used a greater amount of Information/Suggestion with Consultant-trainee #59 for these content areas—giving specific information and modeling the steps of the SDF that were missing—rather than providing her typical Positive Feedback. These two examples reflect a developmental approach to coaching—when coaches perceived consultant-trainees to be at the novice level in applying a skill, they provided more feedback overall, typically consisting of either Information/Suggestion or Reflective Questions to model reflection in action, as indicated by the developmental model.

On the other hand, there was no evidence that the coaches' behaviors shifted over time towards a more facilitative style, as would be expected by developmental models of supervision. Even Coach C's communications, which were less directive than the other coaches', were used to model reflection in action, which is appropriate for novice trainees in Schon's (1987) model. This is where Conoley's (1981) stage-based model of consultation supervision may apply, as the coaches' failure to become less directive may be an artifact of the stage-based nature of consultation. That is, with each new problem-solving stage, the consultant-trainee is once again faced with new skills or content to

apply; and so in a sense she remains a novice throughout the entire case, which is why the supervisor retains a directive stance throughout the process in Conoley's model. Therefore, it appears that coaches did differentiate their coaching according to consultant-trainees' needs; but they retained a teaching approach throughout, perhaps because they perceived the consultant-trainees to be novices at each new stage of the process.

Question 3: Perceptions of the Quality and Benefits of Coaching: How helpful did consultant-trainees find the coaching—in what ways and for which skills?

Overall, the consultant-trainees found the coaching to be a positive experience that benefited their development of all IC skills. Nevertheless, within these typically high ratings, the consultant-trainees indicated that the coaching impacted their skills differentially—more consultant-trainees were able to apply some skills than other skills, and coaching contributed more to some skills than others. The reasons why the coaching impacted skills differently may relate to the difficulty level of each skill, the amount of practice provided through training and coaching, and possibly even the type of coaching provided. These findings are discussed in more depth below.

Quality of coaching. The results demonstrate that the consultant-trainees perceived the coaching to be relevant, effective, thorough, and clear. Because the ratings were so uniformly high, there was no reason to explore whether they differed by coach or by any other factor. This suggests that the e-mail coaching of IC skills was of high quality, according to the consultant-trainees.

Skill development and application. The aim of coaching is to help consultant-trainees move forward on the continuum of skill development, from conceptual understanding to skill acquisition to skill application. When possible, the ultimate goal is

to help consultant-trainees reach the level of skill application, so that they are able to use the skills flexibly in future consultation cases and to coach others. As such, the results were analyzed in terms of both skill growth and skill level at the conclusion of the coaching experience.

In terms of skill development, the consultant-trainees reported significant improvement in all 13 of the IC skills assessed. The current results are consistent with two studies on in-service behavioral consultation training, which demonstrated an increase in trainees' knowledge and use of behavioral consultation skills in structured settings following training (McDougall et al., 1988; Reschly & Grimes, 1991). These three studies document that systematic in-service consultation training does result in skill growth.

However, there are differences in the studies that are important to note. The two previous studies, which examined the presentation, modeling, and practice portion of the training sequence, found improvements in knowledge and skill acquisition in *structured* settings. The current study focused on coaching alone and found an increase in skill acquisition and application in the *actual* setting. The results fit conceptually with Joyce and Showers' (1980) framework on training methods, which indicates that practice leads to skill acquisition in structured settings—as seen in the previous studies—and coaching allows skill application in the actual setting—as seen to some extent in the current study. The current results suggest that consultant-trainees perceived their skills to improve in their practice settings following the e-mail coaching course in IC.

With reference to the consultant-trainees' skill levels at the conclusion of the coaching experience, two findings are pertinent. First, according to both coaches and

consultant-trainees, more consultant-trainees reached the level of skill application for some skills than for other skills. Second, coaches' and consultant-trainees' ratings of the consultant-trainees' skills after coaching were somewhat discrepant.

The finding that more consultant-trainees applied some skills than other skills is consistent with research by Curtis and Zins (1988) indicating that some skills may be harder to develop and apply than others. Within the current study, there was agreement between coaches and consultant-trainees that more consultant-trainees reached the level of skill application for the skills of Entry and Contracting, Prioritizing, and Interventions than for the skills of CBA/Data, Current Performance, and Completing the SDF. Disregarding the differences between coach and consultant-trainee perspectives for the moment, this suggests that the latter skills may be more difficult to apply. As stated in Question 1, developers and practitioners of IC believe that the complexity of some of these skills makes them more of a challenge to learn and use effectively. This raises the question of whether the training and coaching need to be intensified for these skills, or whether there are more effective methods for coaching these skills.

With reference to training and coaching practices, one possibility is that differences in the training provided for each skill impact the level which consultant-trainees are able to attain in their coaching case experience. Joyce and Showers' (1980) model states that didactic presentations, modeling, and practice with feedback must be provided prior to coaching in order for coaching to contribute effectively to skill application. The IC training workshop that is provided prior to the coaching is indeed structured according to this framework; however, given that there are many skills to cover and limited time for addressing them, decisions must be made about which skills to

practice more intensively. In this investigator's experience with delivering and attending the IC training workshop, some skills are taught thoroughly at all three levels; these include Entry and Contracting, Communication Skills, and the initial steps of Defining the Problem Observably. Other skills, such as Goal Setting, CBA/Data, and the use of the SDF, are explained and demonstrated, but practice is sometimes limited or lacking. As such, it may be that the coaching case serves as the first opportunity for practice, thus impacting at the level of skill acquisition rather than skill application (see Recommendation #2). Thus, it may be the combination of both explanations—that some skills are more difficult to apply, and some skills are covered more thoroughly in training—that accounts for the variations in which skills reached the level of skill application at a higher proportion.

The other finding that is important to consider is that coaches and consultant-trainees viewed consultant-trainees' skills differently following coaching. For most skills, more consultant-trainees rated themselves at the level of skill application than coaches rated them. There are several possible explanations for these differences in perception. First, coaches may hold a higher standard than consultant-trainees do, given the coaches' greater level of knowledge and experience with IC. Second, for the most part coaches had only one opportunity to observe the consultant-trainees' skills in each stage of consultation, with the exceptions of Communication Skills and the Collaborative Relationship. It could be that it was difficult for a coach to give a consultant-trainee a rating of "skill application" rather than "skill acquisition" based on a single observation of the skill, unless the consultant-trainee applied the skill well without the need for feedback. Finally, consultant-trainees provided a retrospective rating of their skills, which

may have emphasized skill *development*, whereas coaches provided a fixed rating that emphasized skill *attainment*. These different emphases in rating may also have contributed to the consultant-trainees perceiving their skills more positively than their coaches did. Overall, while coaches' and consultant-trainees' perceptions varied somewhat, generally the difference was only between a rating of skill acquisition versus skill application, which likely represents a different standard of judgment rather than conflicting views per se.

Contributions of coaching to skill development. The impact of coaching on consultant-trainees' development of specific skills was measured in two ways: with a rating form on which consultant-trainees rated the degree to which coaching contributed to skill development, and with open-ended questions asking what specific events or types of coaching were most helpful to skill development. The consultant-trainees' responses to the rating scale indicated that coaching contributed most to Goal Setting, Interventions, completing the SDF, Defining the Problem Observably, and Prioritizing, and the least to Observations, Entry and Contracting, and Communication Skills. In their open-ended responses, consultant-trainees listed coaching as being most helpful for CBA and instructional match, collaboration and communication skills, defining the problem, data collection, and completing the SDF.

When comparing the responses from the two measures, it appears that both yielded very positive responses for completing the SDF and Defining the Problem Observably. The convergence of responses suggests that consultant-trainees perceived these two skills as being the most positively impacted by the e-mail coaching experience. It is possible that this relates to the type of coaching provided for these skills or to the

consultant-trainees' perceptions that they needed more support on these skills. On the other hand, it is interesting to note that the consultant-trainees' responses on the two measures diverged with reference to the skills of CBA and communication, in that these were listed as being positively impacted by coaching in the open-ended responses but received moderate contribution of coaching ratings. This likely reflects the fact that the two measures ask a different question: the Contribution of Coaching scale asks to what degree coaching contributed to each skill, while the open-ended questions ask which types of coaching were *most* beneficial. It appears that, although fewer consultant-trainees reported that coaching contributed substantially to CBA or to communication skills on the rating scale, this minority felt that they derived the greatest benefit from coaching for these skills. This suggests that, *when* the coaching was effective for these skills, it was highly effective; thus, it is important to examine the types of coaching that generated this positive response, as is discussed in Question 4.

Open-ended feedback on positive types of coaching responses. In addition to listing the skills for which coaching was most helpful in their open-ended responses, the consultant-trainees also indicated the types of communication skills that were most beneficial to their skill development. Approximately one-quarter of the consultant-trainees listed positive and critical feedback, support/ encouragement, suggestions for a plan of action, or specificity/examples as being particularly helpful to them. These responses can be compared to the results of Kruger et al.'s (1996) study of the use of e-mail to provide follow-up training in team problem solving. In that study, participants indicated that only specific feedback and conceptual information contributed to their development of problem-solving expertise. The two studies converged in finding that

specific feedback is perceived to be helpful for skill development, but they diverged on the other points. The difference in results may relate to the methodology of the two studies, as the current study relied on participants to scan the feedback and write down what was most helpful, while Kruger et al. (1996) asked participants to rate the helpfulness of each e-mail message and then coded the messages. The latter represents a more comprehensive approach to determining what types of e-mail communications benefit skill development, but it was difficult to adopt in the current study due to the length of the e-mail messages. This methodology may be considered for future studies.

Other research examined trainees' preferences for face-to-face supervisor behaviors and whether there are any differences between novice and intern-level trainees. This research indicated that novices prefer structure, concrete advice, support, and encouragement, whereas interns prefer supervisors to analyze their actions and facilitate critical thinking (Copeland, 1982; Holloway, 1992; Stoltenberg et al., 1994). The responses in the current study seem to correspond with the results for novices in the previous studies, despite the fact that the participants in the current study are already practitioners. However, several factors should be taken into consideration. In the current study, participants were asked to respond based on the coaching that had been provided; since there were few examples of analyzing or facilitating higher-order thinking available in the coaching e-mails, consultant-trainees naturally may have been constrained in their responses. In addition, although the consultant-trainees in the current study were experienced school-based practitioners, they did not have much training or experience in consultation. According to the background information gathered, only about half of the consultant-trainees had even one semester of coursework in consultation, and most had

no experience in delivering consultation-based services in the schools. Thus, the participants truly were novices in the area of IC, so it is not surprising that they responded similarly to other novices in earlier studies. These results also served to provide a point of comparison and triangulation with the qualitative analysis for Question 4, which is discussed next.

Question 4: What, if any, was the Relationship between Coaching Styles and Consultant-trainees' Perceptions of the Benefits of Coaching?

Because there is so little information available about the effectiveness of consultation supervision or coaching behaviors, this study attempted to begin exploring this question using grounded theory methods to examine the relationship between the data gathered on e-mail coaching styles and perceived benefits of coaching. The results suggest that there were specific coaching styles associated with positive Contribution of Coaching ratings and with perceptions of marked skill growth. Specifically, the coaching style that was observed for skills that received high Contribution of Coaching ratings involved a mixture of communication skills but always included Information/Suggestion. In addition, consultant-trainees typically rated these skills at a level 3 (Skill Acquisition) or below on the pre-coaching Skill Development scale, suggesting that they felt they had skill needs in these areas. The e-mail coaching style that was observed for skills that consultant-trainees rated as increasing markedly involved specific Information/ Suggestion followed by specific Positive Feedback, demarcating a progression in skills. However, these patterns did not hold for the skill of CBA/Data, which required more specific, targeted, and timely feedback to be perceived as helpful.

The current results can be considered with reference to Bowman and

McCormick's (2000) study comparing the outcomes of traditional supervision to those of peer coaching for pre-service teachers. Although the specific supervisor/ coach behaviors were not delineated, the authors indicated that peer coaching was characterized by opportunities for observation, immediate feedback, and collaborative post conferences; whereas traditional supervision did not always involve observation, it was more temporally distant from the teaching experience, and it consisted of expert feedback and prescriptions. They found that those involved in peer coaching engaged in more pedagogical reasoning, evidenced greater clarity of instruction, and indicated higher satisfaction than those involved in traditional supervision. The e-mail coaching observed in the current study bears some resemblance to the peer coaching model but also includes aspects of traditional supervision. Similar to peer coaching, the e-mail coaching of IC skills did involve observation, in the form of listening to tapes; and the feedback was timely, almost always occurring before the next consultation session. Based on the results of Bowman and McCormick's (2000) study, these factors may have contributed to the consultant-trainees' skill development, regardless of the style of coaching provided.

However, the fact that the coaches in the present study used predominantly Information/Suggestion and Positive Feedback suggests a more expert orientation to the relationship, which on the surface appears to be consistent with the traditional supervision model. Therefore, the finding that these skills in particular were associated with perceived skill growth is in contrast to the results of Bowman and McCormick's (2000) study. Several differences between the two studies must be considered. First, the previous study did not code communication skills, so it is difficult to discern how peer coach behaviors differed from supervisor behaviors in order to contrast the results to the

current study. Second, the current study was qualitative rather than quasi-experimental, such that there was no comparison between directive and collaborative styles of coaching. It is possible that, given a more collaborative, reflective approach to coaching IC, participants would perceive even greater skill growth. Third, in the present study, the coaching was delivered by e-mail rather than face-to-face; it is not clear how this impacted coaching styles or skill growth. Finally, the consultant-trainees in this study were engaged in their first Instructional Consultation case, while the pre-service teachers in Bowman and McCormick's (2000) study had prior field experience, such that the consultant-trainees were more inexperienced than the teachers. Several supervision theories suggest that novices may benefit more from structured, directive feedback, while trainees who are refining their skills prefer more collaborative analysis (Holloway, 1992; Stoltenberg et al., 1994). This, then, could also help to explain the differences in results between the two studies.

In sum, specific coaching styles were associated with positive consultant-trainee perceptions of skill growth and coaching contributions in this study. Given the fair amount of overlap between the Contribution of Coaching and Skill Development measures, it may be that the associated coaching styles work in conjunction. That is, providing specific Information/Suggestion and a mix of communication skills may lead consultant-trainees to identify a particular skill area as a need; then the subsequent specific Positive Feedback helps consultant-trainees to recognize that their skills have improved, such that both pieces are necessary for consultant-trainees to acknowledge the importance of coaching and to develop their skills (see Recommendations 3, 4, and 5).

Due to the exploratory nature of this qualitative study, more research is needed to

verify which specific coaching behaviors lead to positive skill outcomes. Nevertheless, the current study does offer hypotheses that serve as a starting point for this research and for guiding future e-mail coaching for IC. Furthermore, the hypotheses were confirmed by triangulating the data from the grounded theory analysis with the open-ended responses, both of which indicated that specificity, suggestions, and feedback were most beneficial to consultant-trainees' skill development. The convergence of the interpretations from these two analyses lends credibility to the hypotheses generated by this study, which can be tested in future research.

Curriculum-based assessment (CBA). The skill of CBA stood out in this analysis in many respects. First, only half of the consultant-trainees felt they were able to apply CBA following the coaching experience, compared to 70-90% of consultant-trainees rating themselves at a level of skill application for the other skills. Second, both coaches and consultant-trainees listed this skill as difficult to discuss in e-mail communications, without being able to see and share materials. Third, the findings reported above, on the style of coaching related to positive contribution of coaching ratings, did not apply to the skill of CBA. Instead, a comparison of the coaching for consultant-trainees who rated CBA very positively to the coaching for those who rated CBA negatively, revealed that CBA coaching was rated positively and was associated with skill growth under the following conditions: the feedback was very specific about what to do and how to do it; it was targeted to the particular context of the case; and it was timed appropriately.

The facts that the coaching for CBA was rated more negatively, and that a very precise style of coaching was needed, raise questions about the efficacy of coaching CBA skills by e-mail. Certain factors should be taken into consideration. For instance, CBA is

one of the skills that cannot be practiced during the initial IC training workshop as there are no students with whom to practice. Thus, the coaching case represented many consultant-trainees' first practice experience with CBA. In addition, the reading CBA process has been refined and clarified in recent years, such that consultant-trainees received training that was more specific than the training in CBA that the coaches received years earlier. Therefore, the lack of clarity occasionally seen in the coaches' feedback on CBA may reflect their own level of comfort and skill with the reading CBA process.

In response to the need for additional CBA practice, some districts developing IC-Teams now receive hands-on support with IC on site at their schools, through a separate component of the IC Lab. The on-site support was conducted in an "I do- we do- you do" format; first the trainers modeled the CBA process, then the trainers assisted the consultant-trainees in conducting the CBA steps, and finally the consultant-trainees conducted CBA independently with feedback. It is not known which consultant-trainees participated in the hands-on support and whether this accounts for the positive open-ended responses; one possibility is that consultant-trainees listed the coaching for CBA/Data as beneficial only when it followed additional training on site.

Thus, it is not currently known if the poorer outcomes of coaching for CBA relate to a training need, such that all participants need more hands-on practice and support; to a coaching need, in that coaches need to be re-trained on the CBA process; or both. One possibility is to provide the coaches with updated CBA training, to determine if this has a positive impact on coaching outcomes for this skill (see Recommendation # 6). This is another area that bears more investigation in future research.

Question 5: Perceptions of the Use of E-mail for Coaching: What were the positive and negative aspects of using e-mail for coaching Instructional Consultation skills?

The coaches and consultant-trainees indicated that they found e-mail to be comfortable to use for coaching and relatively easy to access, making it a viable format for IC coaching. They listed the specific advantages as having accessible expertise, time to re-read and reflect upon the feedback, and written documentation to use for planning. On the other hand, both coaches and consultant-trainees provided the lowest ratings for ease of conveying/ understanding complex information via e-mail, although this was much lower for coaches than consultant-trainees. Other disadvantages that they mentioned included difficulty accessing computers; poor efficiency in mailing tapes; and the amount of time needed to listen to, reflect on, and send tapes.

The benefits and drawbacks to using e-mail for coaching that were found in this study are consistent with those mentioned in the literature on distance learning. Specifically, the opportunity to reflect (Kruger & Struzziero, 1997; Myric & Sabell, 1995; Spitzer & Wedding, 1995; VanGorp, 1998), the learner-centered nature of feedback (Mehotra, 1998; VanGorp, 1998), immediate feedback, decreased memory decay, and accessible expertise (Kruger & Struzziero, 1997) are all listed in the literature as advantages of using e-mail. The difficulties with using e-mail for teaching purposes documented in the literature include poor comprehension of the meaning of the message, especially with complex messages (Strauss & McGrath, 1994), and accessibility/software problems, such as the lack of an available server and insufficient training in the software. Thus, it appears that using e-mail for the purpose of coaching IC skills yielded the same benefits and disadvantages as noted for other teaching applications of e-mail.

One potential benefit of using e-mail for distance learning—the small demand on time (Kruger & Struzziero, 1997)—was not found in the current study of the e-mail coaching process. It is likely that the difference in perceptions of time demands between the two studies reflects the fact that in Kruger and Struzziero's study, participants engaged in e-mail support with no additional requirements; while participants in the current study had to tape their meetings, listen to the tapes, and mail them. It seems that these additional requirements may have put a strain on some of the consultant-trainees, but they also permitted direct observation. Given the novice level of the consultant-trainees, the benefit of allowing the coach to "observe" the behavior is critical (Bowman & McCormick, 2000; Goodyear & Bernard, 1998).

In sum, it is clear from the coaches' and consultant-trainees' responses that e-mail is a viable format for providing IC coaching to practitioners who are learning to apply these skills, although there are some areas that need refining. Some of the problems that consultant-trainees experienced with using e-mail, such as discomfort or difficulty with accessing e-mail, will likely improve as participants become more fluent with this medium and it becomes more widely available in schools. Other concerns, such as the difficulty communicating about complex information and the problems of time and efficiency, need to be addressed to render this e-mail coaching process even more beneficial for its participants (see Recommendations #7, 8, and 9). This is discussed below in Future Directions.

Limitations of the Study

The current study has limitations that affect the strength and generalizability of the findings, which should be taken into consideration when interpreting the results. First,

this study used only subjective measures of consultant-trainees' skill development—consultant-trainee self-ratings and coach ratings. Whereas participants' perceptions are frequently used as indicators of knowledge and skill use, they are highly individual and are not subject to confirmation. It would be helpful in the future to incorporate more objective measures of consultant-trainees' skills, such as tapes or permanent products that could be rated for skill application and growth. This would lend more strength to the stated outcomes of the coaching course—consultant-trainee skill growth and application—and would allow a more consequential analysis of the relationship between coaching behaviors and consultant-trainee skill growth.

Second, while this study was able to shed some light on which coaching styles and behaviors were associated with greater skill growth for consultant-trainees learning IC, these results were limited by the coaching behaviors actually present within the study. That is, since the coaches did not use a large number of reflective or collaborative communication skills in their coaching e-mails, it was difficult to assess the full range of e-mail coaching behaviors that might be most beneficial to skill development. A comparison between the more directive style involving Information/Suggestion that leads to Positive Feedback found to be helpful here, and a reflective and collaborative dialogue found to be effective in the literature, is necessary to determine which of these would be most beneficial for consultant-trainees learning IC within this context.

Third, there are so many variables operating within the e-mail coaching course for IC that it is impossible to identify them all and take each into account when analyzing and interpreting the results. For instance, each consultant-trainee took a case in a different school, some of which may have been more or less supportive of the consultant-trainee's

efforts to apply her IC skills. Reschly and Grimes (1991) found that school-based support for consultation impacted consultant-trainees' ability to take and complete a case, which may have operated here as well. Another example is that some consultant-trainees received hands-on support with CBA on site, as mentioned above, while most of the consultant-trainees received support for CBA only through e-mail coaching. These factors likely impact every aspect of the study, especially the consultant-trainees' development and application of IC skills and their ratings of the coaching process.

Fourth, as mentioned in the methodology section, the process for coding the coaches' e-mail responses for Content of the Coaching Response involved assigning a Content code for every content area mentioned in the sentence, rather than for a primary content area as originally intended. While this process increased reliability, it resulted in all of the content areas receiving equal weighting, although some of the content may have been more pivotal to the communication. This diluted the interpretation of the coaches' content focus in their e-mail coaching responses. To further clarify this discussion, it may be worthwhile to develop a system for identifying a primary content code and to use this to examine the relationship between the content of the coaching responses and consultant-trainees' perceptions of the benefits of coaching.

Fifth, since all but one of the participants in this study were women, the findings may be specific to female instructional consultant-trainees who participate in e-mail coaching. Additional research would be needed to determine whether similar patterns of coaching responses and participant feedback hold for male instructional consultant-trainees.

Finally, the coaches who participated in this study were the first to pioneer the e-

mail IC coaching process and were aware of the research being conducted. These two factors may have affected the coaches' behavior and responses in a manner that may not be evident with future coaches. The Hawthorne effect predicts that the very act of studying behavior may produce changes in that behavior. One might predict that the coaches would give their optimal performance while being observed; yet so little is known about e-mail consultation coaching that they may not have been able to identify what "optimal" would be. It is difficult to determine what effect the coaches' knowledge of their participation in this study may have had on their coaching behavior.

The coaches' status as "pioneers" of the e-mail coaching process potentially encouraged them to devote more effort and time to their coaching responses, since the course's continuation depended on them. However, several procedures have been implemented to ensure that all coaches participate as fully as these initial coaches. First, the presence of the coaching manual (see Appendix C) provides all coaches with a framework to follow when providing coaching to consultant-trainees, which establishes a basic level of consistency. Second, the coordinator coach monitors all e-mail communications to ensure that the coaching framework is being followed and that the quality of the coaching responses is maintained. Third, the coaches are paid, which likely increases their sense of obligation to uphold a certain standard of coaching. Thus, while it is possible that the coaches' responses observed in this study are not representative of future coaches, due to their participation in research and their status as pioneers, several efforts were made to ensure that future coaches maintain the same quality of coaching as seen here.

As a final note, the use of qualitative and descriptive methods in this study does

not represent a limitation, but these methods do define the manner in which the results should be understood and applied. That is, the grounded theory methods used here are appropriate for generating hypotheses about the e-mail IC coaching process, as detailed throughout the discussion. They do not serve to test or verify these hypotheses, so additional research is needed for that purpose. In addition, the results of this study pertain only to e-mail coaching of IC skills within this particular context and framework, and they cannot be generalized more broadly to the fields of consultation supervision or e-mail applications of supervision. However, it is likely that these hypotheses will be applicable to future e-mail IC coaching conducted within this specific framework, and so recommendations for future practice are appropriate.

Implications for Training, Practice, and Future Research

Broad Implications for Training and Practice

The impetus for delivering quality training and coaching in consultation, as described in the introduction, is to provide school psychologists with the skills needed to expand and shift their role to include consultation-based services. The rationale for increasing consultation-based services lies in their association with positive student outcomes. Given these goals, the current research findings should be considered with respect to the changing role of the school psychologist in particular, and to the broader impact on student achievement.

The study results demonstrate that, following e-mail IC coaching, the majority of participants—most of whom were school psychologists—reported that they had acquired the skills needed to provide consultation services in their work settings. In addition, 29 of the 30 consultant-trainees who returned their rating forms indicated that they intended to

take additional IC cases in the future. This suggests that the e-mail IC coaching process was effective for helping school psychologists to gain consultation skills that would allow them to shift their role within the school. However, it is also important to note that, of the 65 practitioners who participated in the IC training workshop, only about half—typically the school psychologists who were designated to become IC Team Facilitators—chose to participate in the e-mail coaching process. This highlights the critical role that self-selection plays in any effort designed to change practitioners' roles. It seems reasonable to conclude that the e-mail IC coaching process provided school psychologists with the opportunity to develop and apply skills that are critical to shifting their role toward including consultation-based services, while recognizing that training in isolation is insufficient to accomplish complete role reform, since this is dependent on the motivation of the individual school psychologists within the broader political context.

With reference to the implications of this research for student outcomes, it is important first to understand how IC Teams as an innovation impact on student achievement. Multiple program evaluations of the IC Team model's implementation and outcomes in various school districts have documented student goal attainment once an IC Team is implemented with integrity (see Coffey, 2000; Gravois, 1995, 1996; Vail, 1997, 1998, 1999). To be fully implemented, all IC Team members must be able to apply the core IC skills, which they develop under the leadership of their IC Team Facilitator. Thus, skilled IC Team Facilitators train their IC Team members to apply the IC skills, so that they can implement the IC Problem-solving Process with integrity, which leads to student goal attainment. The critical link that this study provides is that the e-mail coaching process is effective for helping IC Team Facilitators to develop and apply the

core IC skills, which is the foundation for and first step toward student achievement within the IC Team model.

Implications for Future E-mail IC Coaching

Although the results of this study must be considered as hypotheses that require further verification, they can and should be used to refine the e-mail coaching process for future instructional consultant-trainees while additional research is being conducted. The study findings strongly support the continuation of the e-mail coaching course for IC, as the coaching was found to be effective, relevant, clear, and thorough; and the e-mail format was rated as comfortable to use and easy to access. Aspects of the existing coaching process that appear to be beneficial include: the provision of timely, immediate feedback; the use of a variety of communication skills, especially Information/ Suggestion, Positive Feedback, specific examples, and Support/Encouragement; and the focus on IC skills and content areas, especially those within the Problem-solving Stages and Steps. These components of the e-mail coaching process for IC seem to be particularly effective.

There are several aspects of the coaching process for IC that could be refined based on the results of this study. Refinements are suggested both for the coaching process itself and for the e-mail and mailing format. Recommendations for improving the coaching process are as follows:

1. Incorporate methods to help coaches assess whether inadequate skill performance represents a lack of conceptual understanding or a skill need, so that coaches can target the appropriate feedback in their e-mail response in a succinct manner. Consider the use of pre-assessment measures, such as a Problem ID or SDF

simulation, or the use of a reflection sheet on which consultant-trainees assess their own performance to provide an indication of their conceptual understanding.

2. Recognize that skills that have not been sufficiently practiced during the IC training workshop may not reach the level of skill application during coaching, and clarify the expected outcomes of the e-mail coaching course for IC. It may be acceptable for some skills to reach only the level of skill acquisition, or perhaps additional practice opportunities should be offered to ensure that all skills reach the level of application.
3. Help consultant-trainees become more proficient at understanding their skill strengths and needs, since consultant-trainees perceive the feedback to be more beneficial and easier to assimilate when it targets a skill they have identified as a need. This could be accomplished by having consultant-trainees complete a pre-assessment, which is shared with their coach and incorporated into the coaching feedback; or by instructing coaches to address more directly why they have identified a skill as a need when providing Critical Feedback or Suggestions.
4. Be more systematic in the use of Information/Suggestion to identify skill needs and how to improve them, followed by Positive Feedback when the skill is appropriately performed, in order to target skill development.
5. Improve the specificity of the coaching feedback as this appears to benefit skill growth and application. This may be accomplished by more clearly identifying the primary content of each sentence, by making the differentiation between Suggestion and Information more distinct, and by using examples.
6. Improve coaching on CBA skills, both by instructing the coaches to provide

specific instructions on how to conduct a CBA that is timely and targeted to the context of the case, and by re-training the coaches in the reading CBA process as appropriate. Also, consider whether hands-on support for CBA skill application is needed.

Recommendations for changes to the e-mailing and mailing process are as follows:

7. Improve the quality of communication about complex topics, such as CBA/Data, the SDF, and Defining the Problem, so that it is better understood and applied. This could be accomplished by using a chat room discussion or sequential e-mails, which would allow opportunities to clarify complex information. Other ways to improve communication around complex topics include: providing examples in the e-mail text whenever possible and creating on-line models of materials such as the SDF, especially the Goal Attainment Scale and Operational Definition.
8. Increase the efficiency of sending tapes through the mail by pre-purchasing and using two-day mailing packages.
9. Streamline the e-mail coaching process for IC so that the consultant-trainees' time is used as efficiently as possible. Suggestions for streamlining the process include: first, decrease the length of the coaching e-mails to one or two pages that provide succinct feedback (i.e., respond to questions, identify areas of need, provide specific suggestions or reflective questions depending on the consultant-trainee's skill level, and provide support and positive feedback for skills used well). Second, use a reflection sheet as well as sequential e-mails or a chat room format, both to clarify questions remaining from the coaching e-mail and to plan next

steps collaboratively. This would decrease the consultant-trainee's time in reading and integrating the e-mail information and would allow her more flexibility in structuring the coaching to meet her needs.

These recommendations are expected to improve the effectiveness and the efficiency of the e-mail coaching process for IC based on the results of the current study. However, further research is necessary to determine if these changes are indeed beneficial.

Future Directions in Research

This study contributes to the literature by adding to the research on e-mail support of consultation skills and by addressing a gap in the research on effective consultation coaching behaviors. Nevertheless, the hypotheses generated in this study through the use of grounded theory methods require additional research to verify and expand upon them. For instance, each recommendation presented above needs to be studied systematically to confirm the e-mail coaching behaviors that are most effective for improving instructional consultant-trainees' skills, perhaps through additional descriptive, or potentially quasi-experimental, research designs. The following variables thus should be included and manipulated in future studies:

- Coaching style and behaviors: coaching that incorporates specific Information/Suggestion followed by Positive Feedback, vs. collaborative coaching that involves joint definition of needs and reflective questions. Results should also be considered with reference to the consultant-trainees' skill levels pre-coaching.
- CBA coaching: CBA coaching by e-mail only vs. CBA coaching through a combination of hands-on support plus e-mail coaching. In addition, analyze the

quality and specificity of CBA coaching responses following re-training in the CBA process compared to current CBA coaching responses.

- On-line format: e-mail coaching consisting of only one e-mail coaching response from coach to consultant-trainee vs. e-mail coaching that includes a reflection sheet, an e-mail coaching response, and a follow-up e-mail to increase immediacy and interaction.

In addition, the current study adds to the literature on *e-mail* consultation coaching behaviors, yet there is little research on the nature of *face-to-face* consultation coaching. In part, the state of the literature reflects the state of practice—time and logistical demands make face-to-face coaching challenging to implement. Yet without this information, it is difficult to answer important questions about the e-mail coaching process, such as whether the use of e-mail constrains or changes the types of coaching responses provided. Thus, it would be beneficial to conduct research on face-to-face IC coaching, for the purpose of delineating how the coaching styles observed are influenced by the medium in which they are delivered versus by the context of the case itself.

Finally, this research could be improved through the use of objective measures of skill application rather than relying on self-report measures. Objective measures might include evaluating the consultant-trainees' completed SDF's or rating their completion of Problem ID objectives and their use of communication skills on a Problem ID tape. This would allow stronger conclusions about which skills the consultant-trainees were able to apply following coaching and which coaching behaviors were most effective for enhancing skill application. These measures could also be administered as a simulation

before the training and coaching experience, to measure skill growth more directly and to determine the impact of training and coaching. This indeed would be a helpful next step for fortifying and substantiating the results presented here.

Conclusion

While theoretical models of in-service consultation training and coaching exist, research on their application in practice is relatively sparse. In addition, recent trends in professional development toward the use of the Internet to supplement training appear to be a growing trend that must be systematically investigated to enhance its effectiveness. The current study addressed both of these areas simultaneously, as it focused upon evaluating an e-mail coaching course in Instructional Consultation offered to school-based practitioners who attended prior training in IC. The results of the study yielded hypotheses about the themes, styles, and behaviors that characterized e-mail coaching of IC skills; the ways in which, and reasons why, coaches differentiated their responses to consultant-trainees; the consultant-trainees' perceptions of the outcomes of the coaching course; the coaching behaviors that were associated with these outcomes; and the participants' perceptions of the viability of using e-mail for consultation coaching. These findings contribute to the existing literature on the use of the Internet for consultation training, and they provide a foundation for future research to further explicate and verify the e-mail consultation coaching process.

Appendix A

Feedback and Rating Forms: Consultant-trainee Packet

Feedback on Coach's E-mail Responses

Consultant # _____

We are interested in learning what specific coaching responses were most helpful to you in your development of consultation skills. Please read through the questions below and reflect on your entire on-line coaching experience to answer them. To assist you in recalling the entire coaching process, we have included a hard copy of the e-mails between you and your coach. Please use these as a reference for answering the questions.

Was there a specific event during the coaching experience that you found particularly helpful? If yes, please describe it:

What specific types of feedback from your coach did you find most helpful to your skill development? Please provide examples:

Did your coach provide any feedback that was confusing or that was not particularly helpful to your skill development? If yes, please describe:

If you would like to have a phone interview with the researcher to discuss your responses, please sign here: _____

Rating of Skill Development

A. Please rate yourself on the following consultation skills. Rate your skills:
(1) after summer IC training but before taking a case and receiving coaching
(2) currently/after taking a case and receiving coaching.

Please rate each skill on a scale of 1 to 5:

1 I do not have an understanding of this skill
2 I understand this skill but have difficulty using it
3 I can demonstrate this skill in some situations
4 I can apply this skill consistently
5 I could coach someone else on this skill

Contribution of Coaching

B. Now please rate how much of your skill development in each area you attribute specifically to the coaching you received:

1. Coaching did not contribute at all to my skill development
2. Coaching contributed somewhat to my skill development
3. Coaching contributed a great deal to my skill development

Consultation Skill	After summer training	After coaching	Contribution of Coaching to Skills
Contracting	1 2 3 4 5	1 2 3 4 5	1 2 3
Defining concerns in observable terms	1 2 3 4 5	1 2 3 4 5	1 2 3
Prioritizing concerns	1 2 3 4 5	1 2 3 4 5	1 2 3
Writing a statement of current performance	1 2 3 4 5	1 2 3 4 5	1 2 3
Establishing measurable goals	1 2 3 4 5	1 2 3 4 5	1 2 3
Conducting Curriculum Based Assessment	1 2 3 4 5	1 2 3 4 5	1 2 3
Conducting systematic observation	1 2 3 4 5	1 2 3 4 5	1 2 3
Charting/graphing data	1 2 3 4 5	1 2 3 4 5	1 2 3
Evaluating student progress using data	1 2 3 4 5	1 2 3 4 5	1 2 3
Designing appropriate interventions	1 2 3 4 5	1 2 3 4 5	1 2 3
Completing the Student Document Form	1 2 3 4 5	1 2 3 4 5	1 2 3
Using collaborative communication skills	1 2 3 4 5	1 2 3 4 5	1 2 3
Maintaining a collaborative stance	1 2 3 4 5	1 2 3 4 5	1 2 3

Consultant Feedback Form for On-line Coaching Experience

Consultant # _____

Please rate each item on a 1 to 5 scale and answer the questions on the next page.

1. Ease of using/accessing e-mail to receive feedback and communicate with your coach

Not at all easy 1 2 3 4 5 Very easy

Comments: _____

_____

2. Level of comfort with receiving feedback via e-mail (rather than face-to-face)

Not at all comfortable 1 2 3 4 5 Very comfortable

Comments: _____

_____

3. Amount of time spent reading and integrating written feedback (compared to face-to-face feedback)

Very little time 1 2 3 4 5 A lot of time

Comments: _____

_____

4. Ease of understanding/ conveying complex information about your case via e-mail

Not at all easy 1 2 3 4 5 Very easy

Comments: _____

_____

5. Usefulness/relevance of coach's feedback to your case

Not at all useful 1 2 3 4 5 Very useful

Comments: _____

_____

6. Effectiveness of coach's feedback for increasing your skills as an instructional consultant

Not at all effective 1 2 3 4 5 Very effective

Comments: _____

_____

7. Clarity of coach's feedback

Not at all clear 1 2 3 4 5 Very clear

Comments: _____

_____

8. Thoroughness of coach's feedback

Not at all thorough 1 2 3 4 5 Very thorough

Comments: _____

_____

9. Overall effectiveness of the on-line coaching course

Not at all effective 1 2 3 4 5 Very effective

Comments: _____

_____

What aspects of this on-line coaching experience have been most helpful for you?

What changes do you recommend to improve the on-line coaching course?

Do you plan to engage in Instructional Consultation cases in the future? _____
If not, please explain why you would not continue to engage in IC cases:

Background Information (Consultant version)

Please provide the following information on your background/experience:

Professional position:
_____ School psychologist
_____ Special educator
_____ Other

Years of professional experience:
_____ Student experience only (internship)
_____ 1-5 years
_____ 6-10 years
_____ Over 10 years

Consultation training and experience (circle yes or no; if yes, provide additional information):

Yes No Previous in-service workshops in consultation?
# of hours: _____
Model: instructional behavioral mental health school survey other

Yes No Previous graduate course work in consultation?
# of semesters: less than 1 semester 1 semester more than 1 semester
Model: instructional behavioral mental health school survey other

Yes No Previous supervision or coaching in consultation?
# of semesters: less than 1 semester 1 semester more than 1 semester
Frequency & length of supervision sessions: _____
Format for supervision: group dyad individual

Yes No Previous experience in delivering consultation?
Setting: _____
Model: _____

E-mail experience:
I have used e-mail for:
_____ Less than 1 year
_____ Over 1 year
I have access to e-mail:
_____ At work only
_____ At home only
_____ At both work and home

Primary reason for taking course (check one):
_____ To obtain university credit
_____ To prepare for role as instructional consultant in current position
_____ To learn consultation skills in hopes of applying them in future position
_____ Other

Appendix B

Feedback and Rating Forms: Coach Packet

Rating of Consultant's Skill Development

Consultant # _____

Please rate each consultant's level of development in the following consultation skills at the end of the coaching experience. Please rate each skill on a scale of 1 to 5.

1 Consultant does not have an understanding of this skill (evidence: consultant is unable to articulate concept or identify when hadn't used skill appropriately)
2 Consultant understands this skill but has difficulty using it (evidence: consultant is able to articulate concept and describe appropriate action but had difficulty demonstrating the skill)
3 Consultant can demonstrate this skill in some situations (evidence: consultant demonstrates skill inconsistently in consultation with teachers)
4 Consultant can apply this skill consistently (evidence: consultant demonstrates skill consistently in consultation with teachers)
5 Consultant could coach someone else on this skill (evidence: consultant is able to assess own skill use and demonstrate appropriate action during consultation)

Consultation Skill					
Contracting	1	2	3	4	5
Defining concerns in observable terms	1	2	3	4	5
Prioritizing concerns	1	2	3	4	5
Writing a statement of current performance	1	2	3	4	5
Establishing measurable goals	1	2	3	4	5
Conducting Curriculum Based Assessment	1	2	3	4	5
Conducting systematic observation	1	2	3	4	5
Charting/graphing data	1	2	3	4	5
Evaluating student progress using data	1	2	3	4	5
Designing appropriate interventions	1	2	3	4	5
Completing the Student Document Form	1	2	3	4	5
Using collaborative communication skills	1	2	3	4	5
Maintaining a collaborative stance	1	2	3	4	5

Coach Feedback Form for On-line Coaching Experience

Coach # _____

Please rate each item on a 1 to 5 scale and answer the two questions below.

1. Ease of using/accessing e-mail to send feedback and communicate with your consultant

Not at all easy 1 2 3 4 5 Very easy

Comments: _____

_____

2. Level of comfort providing feedback via e-mail (rather than face-to-face)

Not at all comfortable 1 2 3 4 5 Very comfortable

Comments: _____

_____

3. Amount of time spent preparing and writing feedback (compared to giving feedback in person)

Very little time 1 2 3 4 5 A lot of time

Comments: _____

_____

4. Ease of conveying complex information/feedback about consultant's case via e-mail

Not at all easy 1 2 3 4 5 Very easy

Comments: _____

_____

What aspects of this on-line coaching experience worked well?

What changes do you recommend to improve the on-line coaching experience?

If you would like to have a phone interview with the researcher to discuss your responses, please sign here: _____

Background Information (Coach version)

Please provide the following information on your background/experience.

Years of experience as a school psychologist _____

Years of experience conducting IC cases _____

Years of experience coaching IC case managers (face-to-face) ___

Years of experience supervising school psychologists ____

Years of teaching experience _____

Formal training in supervision/coaching (check all that apply):

_____ No formal training
_____ Less than 1 semester of course work
_____ 1 semester or more of course work
_____ Supervision/feedback on your supervision/coaching skills
_____ Other (please describe): _____

E-mail experience:

I have used e-mail for:
_____ Less than 1 year
_____ Over 1 year

I have access to e-mail:
_____ At work only
_____ At home only
_____ At both work and home

Appendix C

Instructional Consultation Online Follow-Up Course

Manual for Participant Consultants

Welcome to the Instructional Consultation Online Follow-Up course. During the next 10 weeks, you will be developing Instructional Consultation (IC) skills as you apply them to an actual case. Your coach will review your audiotaped consultation sessions, Student Documentation Forms (SDF), and questions, and provide you with e-mail feedback and responses. This manual covers course expectations, audiotaping, informed consent, materials coding procedures, guidelines for getting started, and a brief description of the IC Coaching model.

Course goal and expectations

The goal of this experience is to increase and refine your skills in the effective application and use of the Instructional Consultation process. Specific objectives are to increase knowledge and skills in: 1) the stage-based IC problem solving process, 2) IC collaborative communication skills, 3) consultation documentation utilizing the IC Student Documentation Form (SDF), and 4) curriculum based assessment (CBA) as part of the IC problem solving process. The following activities are designed to help you meet these objectives and are therefore required for participation in this course:

1. Case consultations should occur on a weekly basis and be audiotaped.
2. You will be asked to submit a minimum of five tapes from the same case consultation for review by your case coach. All tapes are to be **standard size cassette** tapes (no mini cassettes). The following audiotapes are required:
   - 1 audiotape of contracting
   - 2 audiotapes of the problem identification stage
   - 1 audiotape of intervention design, and
   - 1 audiotape of intervention implementation/evaluation
3. A photocopy of the case SDF, completed to the point covered in the current audiotape, should be submitted with each tape.
4. A **brief** written reflection on your goals for the session and success in meeting them should also be submitted for each consultation meeting. This can be written on the form provided in this manual and enclosed with the tape, or can be written in an e-mail to your coach on a weekly basis.
5. Completion of the entire problem solving sequence is expected. That is, you are expected to work through all stages of problem solving within the case. While you are asked to submit a minimum of five tapes as indicated in #2 above, you may submit more than five tapes. Completion of the problem solving sequence in the time allotted for the course is encouraged

6. All tapes should be reviewed by you and then mailed to your assigned coach along with a copy of the completed SDF within 48 hours of the session to allow sufficient time for review and feedback by your coach.

Audiotaping and informed consent

Audiotaping necessitates informed consent from both you and your consultee/teacher. Two consent forms are provided for this purpose. The **first consent form is required for your participation in this course and is to be signed by you and your consultee prior to beginning the consultation.** This form allows audiotaping and release of tapes and Student Documentation Forms to your coach for review.

The second form releases your audiotapes and SDF's to the Laboratory for Instructional Consultation research pool. The Laboratory for Instructional Consultation is interested in studying the development of consultant skill in response to on-line coaching and your tapes provide the opportunity to do so. Your participation, although optional, is strongly encouraged.

Why audiotape consultation sessions? Trainers have long recognized the benefits of listening to actual samples of interpersonal communication. Taping permits multiple opportunities to listen and review what went well and what could be done differently. Listening critically to one's own interaction is a recognized professional development activity. In addition, taping allows your coach , an experienced Instructional Consultant, to provide another perspective and feedback. Finally, audiotaping over time provides objective evidence of consultant skill growth. We consider taping so essential to Instructional Consultation skill that course participation is contingent on it.

Coding materials

In order to protect the confidentiality of your consultee and yourself, we ask that you code tapes and SDF's rather than using personal identifying information. Your consultant number is included in the cover letter that accompanied this manual. In addition, each stage of problem solving should be coded using the following abbreviations:

Consultation Stage	Suggested Abbreviation
Contracting	CONT
Problem Identification	PID
Intervention Design	IDES
Intervention Implementation/Evaluation	IIMP/E

Code your tapes by writing your consultant number followed by the session number and consultation stage abbreviation
Example: 3-2 PID = Consultant number 3, session 2, Problem Identification stage.

Confidentiality

Mail is occasionally lost and e-mail communications are not secure. Please remember to use your code on tapes, SDF's, and e-mails. When communicating via e-

mail, please avoid using names or other identifying information. Use general terms such as "the teacher" or "the student".

Communicating with your coach

Distance learning communication differs from the immediate "give and take" exchange of face-to-face meetings. It will be necessary for you to compile questions and comments into written form and await a response. When it comes to distance learning, timing is everything. It takes time for you to listen to your tape and for your coach to receive it through the mail. Your coach needs time to listen to the tape and write a response. Ideally, coaching feedback prior to your next consultation meeting is desirable. So, establish a communication routine with your coach as soon as possible. For example, if your consultation meeting occurs on Tuesdays, listen and reflect on your tape on Wednesday, and mail the tape, SDF copy, and goals/questions by Thursday with e-mail feedback due back to you by Monday. You are encouraged to negotiate such a schedule when your coach first contacts you by e-mail. Distance education precludes face-to-face meetings and telephone contact with your coach.

Getting Started

There are several possible problems that can delay your completion of this experience (equipment failure, canceled meetings, illness, natural disasters, etc.). So, the sooner started the better. It is recommended that you select a consultee/teacher who is willing to participate in this learning experience, and a case that has academic concerns and no more than mild behavioral concerns. Your consultee/teacher must also be willing to audiotape and release the audiotape for coaching review for this course.

Although normally reserved for the contracting meeting, it is suggested that you check to see whether weekly individual meetings of 20 to 30 minutes are acceptable and schedule them prior to beginning your relationship for this course. This commitment seems like a lot to ask; and many beginning consultants are reluctant to approach others for this reason. However, delaying the start of your relationship is detrimental to your experience. So, ask, and assure those who decline that you understand. Ask them for recommendations for others who may be interested, if you have no one else in mind.

Once you have found a consultee and scheduled meeting times, organizing and checking equipment/materials in advance can save you time and energy. Many sessions have been lost because the tape recorder failed or did not record audibly. Make sure you have a working tape recorder that uses standard sized cassettes and know where a backup recorder can be found. If it is battery powered, have extra batteries available. Check to see where the recorder must be placed in order to secure an audible recording for both participants. An audio check prior to each meeting is a good idea. In some cases, an extension cord may be necessary. Check the meeting room to see if this is the case. Purchase at least 6 (8 to be safe) standard size cassette tapes. You will need 1 for each session and it is not unusual for beginning consultants to require more than the required number of sessions. It is risky using used tapes because previous recordings are not always deleted and audio quality can be poor.

A set of prepaid mailing envelopes and labels can save you time and money. Don't forget your informed consent forms, SDF's, paper, pencils, and any other case

related materials (e.g., case folder, IC Handbook) that you may need. Many people store IC equipment and materials together in a particular carry bag or briefcase which they can easily transport to different locations, reducing the worry about keeping track of individual items. As additional materials are gathered during consultation (e.g., work samples, CBA materials, timers), they can be readily stored along with basic equipment in this manner.

Coaching Process

You have scheduled your meetings with your teacher, your equipment/materials are organized, and your coaching communication is scheduled. Now, you can focus on developing your skills through the coaching process. The coaching process occurs in three phases:

1) identifying a focus skill area,
2) observing focus skill area indicators, and
3) providing feedback for reflection on focus skill area performance.

Begin thinking about a focus skill area by reviewing the list of frequently selected focus areas at the end of the manual. Let your coach know of possible areas of interest as soon as you have them. Your coach will be able to listen and provide feedback based upon your chosen focus area as well as your consultation during your taped sessions. An initial focus area and objective should be collaboratively determined prior to completion of the first Problem Identification tape.

Along with feedback about your focus skill, your coach will provide feedback in 5 additional areas: 1)**Appropriateness of content** for consultative stage; 2) **Quality of working relationship**; 3) **Accuracy and appropriateness of the Student Documentation Form (SDF)**; 4) **Appropriateness and quality of curriculum based assessment (CBA)**; and 5) Overall **impression of effectiveness and efficiency** of session.

Additional assistance

Contact the OEEC course instructor—Lindsay Vail—at pvail@umd5.umd.edu should you have difficulties contacting your coach or questions your coach cannot answer. Your feedback and suggestions for improvement to this manual and experience are invited and confidential.

Getting Started Checklist

Next Steps:

- Find a teacher consultee who is willing to participate in this experience with you
    - Set up a regular meeting time
    - Review and sign consent form for audiotaping prior to taping first meeting
- Establish a communication schedule with your coach (coach will initiate contact)
- Meet with your consultee for contracting and tape your session
    - Listen to and reflect on your tape
    - Send your tape to your coach

Materials List:

- Working tape recorder (standard size cassettes)
- Batteries (if appropriate)
- Extension cord (if necessary)
- 6-8 standard size cassettes (preferably new)
- Mailing envelopes
- Informed consent forms
- Student Documentation Form (SDF)
- Note paper
- Pencils
- IC manual
- Carry bag or briefcase (optional)

REQUIRED FOR COURSE PARTICIPATION

Informed Consent for Audiotaping and Release of Information

Your consent to audiotape Instructional Consultation sessions is requested as part of a follow-up learning experience through the University of Maryland. Audiotapes will be reviewed by the consultant participant and by the consultant participant's supervisor or coach for the purpose of developing Instructional Consultation skill. In addition, the consultant participant's supervisor or coach will review copies of the Student Documentation Form (SDF). Finally, the OEEC instructor will review electronic feedback communications from the consultant participant's supervisor or coach for monitoring and feedback purposes. If you agree, please sign below:

I agree to allow audiotaping of Instructional Consultation sessions and to release the audiotape and copies of the Student Documentation Form (SDF) to the consultant participant's supervisor or coach for the purpose described above.

Consultee
Signature _____ Date _____

Consultant Participant
Signature _____ Date _____

I agree to allow release of my electronic feedback communications to the OEEC instructor for the purposes described above.

Consultant Participant
Signature _____ Date _____

Coach/ Supervisor
Signature _____ Date _____

Laboratory for Instructional Consultation Teams
Research Database Release

Your consent to release audiotapes of Instructional Consultation sessions, Student Documentation Form (SDF) copies and supervisory electronic feedback communications to the Laboratory for Instructional Consultation at the University of Maryland for future research purposes is requested. All written identifying information (i.e., audiotape labels, SDF identifying information, e-mail references) will be number coded and kept confidential. However, your identity may be partially revealed to researchers by virtue of use of the audiotape. Your identity as a participant in any study will not be revealed without your written consent. You may withdraw your audiotape, SDF, or supervisory electronic feedback communications at any time. You may also choose to be contacted for your consent prior to each research use of your audiotape, SDF, or supervisory electronic communication. If you have questions at any time, please contact the Co-Directors of the Laboratory for Instructional Consultation Teams:

Todd Gravois, Ph.D. or Sylvia Rosenfield, Ph.D.
Laboratory for Instructional Consultation Teams
University of Maryland, College Park
3214 Benjamin Building, College Park, MD 20742
301-405-6886

I agree to release audiotapes of Instructional Consultation sessions, copies of Student Documentation Forms, and supervisory electronic feedback communications to the Laboratory for Instructional Consultation Teams database for research purposes.

Consultee Signature_____ Date_____

Consultant Participant Signature_____ Date_____

Coach/ Supervisor Signature_____ Date_____

Please indicate your wish to be contacted for consent prior to each research use of your audiotape, SDF, or supervisory electronic feedback communication by providing contact information on the lines below:

_____ _____
Consultee Name Telephone

_____ _____
Street Address e-mail

_____
City State Zip Code

_____ _____
Consultant Participant Name Telephone

_____ _____
Street Address e-mail

_____
City State Zip Code

Frequently Selected Focus Areas for Coaching

- Cover important components of contracting
- Define problems in observable/measurable terms
- Prioritize/focus on one problem during problem identification
- Target academic functioning and conduct CBA when presenting concern is behavioral in nature
- Avoid "rushing to solutions"
- Set goals (set current and desired performance levels)
- Use data collection procedures
- Conducting CBA
- Conducting systematic observations
- Graphing/charting data
- Analyzing data
- Collaboratively develop and implement interventions
- Cover components in intervention design/implementation stage (i.e., what?, when?, how often?, who?)
- Use brainstorming strategies during meetings with teachers
- Use collaborative communication skills effectively
- Paraphrasing
- Perception checking
- Clarification statements and questions
- Active/attentive listening
- Relevant questions
- Offering information
- Use time management
- Involve teachers in cases

Note. From Instructional Consultation Teams (p.140), by S.A. Rosenfield and T.A. Gravois, 1996, New York: Guilford

Reflection on Consultation Meeting

Before meeting, plan:

Goals for the meeting:

Focus skill for this meeting:

After meeting and listening to the tape, reflect on:

Which goals did you accomplish?

What would you do differently/ What questions do you have?

Appendix D

Informed Consent Forms

Laboratory for Instructional Consultation Teams

Informed Consent for Release of Forms to Research Database (Consultant version)

Project Title: E-mail Coaching of IC Skills: Through the Eyes of Consultant-trainees and Coaches
Principal Investigators: Lindsay Vail and Dr. Sylvia Rosenfield

Your consent to release your Consultant Feedback Form, Rating of Skill Development, Contribution of Coaching to Skill Development, Feedback on Coach's E-mail, and background information forms for research purposes is requested. Research is being conducted to investigate the on-line coaching experience, including benefits and barriers for participants and the ways in which on-line coaching facilitates consultation skill development.

For the purpose of this research project, all of your responses will be tabulated and summarized, and your coach will also provide a rating of your skill development that will be matched to your skill ratings. All of your forms are coded with a consultant number and will be kept confidential. In addition, all names used in e-mail communications have been changed to numbers to protect privacy. Given the frequent use of consultant numbers throughout the course, your original consultant number may be recognized by the principal investigator; therefore your responses will be re-coded with a new consultant number by a research assistant prior to being reviewed by the principal investigator. All records will be maintained in the IC Lab office. Your individual responses will not be reviewed by the course instructor (Dr. Gravois) or shared with your coach, but all of the responses for each coach will be summarized to provide feedback to the coach.

In this study you will be asked to share your honest feedback about the coaching experience, both positive and critical. While providing critical feedback may feel uncomfortable to some, there will not be any confrontation or penalty for providing it. The results of this study will be used to improve the on-line coaching course in IC. Although the study will not help you personally, it will benefit future participants in the IC course and future "consumers" of IC as we improve our process of training instructional consultants.

Your release of forms to the research database is entirely voluntary and is not attached to course credit in any way. You may withdraw your responses at any time. If you have any questions at any time, please contact:

Todd Gravois, Ph.D., or Sylvia Rosenfield, Ph.D.
Laboratory for Instructional Consultation Teams
University of Maryland, College Park
3214 Benjamin Building
College Park, Maryland 20742
(301) 405-6886

I agree to release my responses on the Consultant Feedback, Rating of Skill Development, Contribution of Coaching to Skill Development, Feedback on Coach's E-mail, and background information forms to the Laboratory for Instructional Consultation Teams database for research purposes.

_____ _____

Consultant Participant Signature Date

Laboratory for Instructional Consultation Teams

Informed Consent for Release of Forms to Research Database (Coach version)

Project Title: E-mail Coaching of IC Skills: Through the Eyes of Consultant-trainees and Coaches

Principal Investigators: Lindsay Vail and Dr. Sylvia Rosenfield

Your consent to release your Coach Feedback Form and your e-mail communications with your consultants for research purposes is requested. Research is being conducted to investigate the on-line coaching experience, including benefits and barriers for participants, themes of coaching responses, and the ways in which on-line coaching facilitates consultation skill development.

Your e-mail communications with your consultants will be analyzed qualitatively to determine themes of coaches' responses to consultants. Your consultants will also be sent a hard copy of your e-mail responses and asked to indicate what they found most and least helpful. Finally, your Coach Feedback Form and Rating of Consultant Skill Development will be tabulated.

Your Coach Feedback Form and e-mail communications with your consultants will be coded with a coach number and kept confidential. The codes will be assigned by a research assistant, who maintains back-up copies of the data but will not participate in data analysis. However, a summary of the feedback for each coach will be provided to the research assistant in a sealed envelope for distribution to each coach. All records will be maintained in the IC Lab office, and e-mails will be archived for use in future research studies. Your informed consent will be requested before using your e-mail communications in any subsequent research studies.

Despite the use of coach code numbers, your identity may be recognized by the principal investigator due to the small sample of coaches. As the purpose of this study is to explore the coaching process and its effectiveness, your e-mail responses will be reviewed critically by consultants and qualitatively by the Principal Investigator. The results of this study will be used to improve the on-line coaching course in IC. In addition, each coach will receive a written summary of the feedback provided by her assigned consultants, and may schedule a meeting with the IC Lab Co-Directors to review the feedback if desired.

Your release of forms/ e-mail communications to the research database is entirely voluntary. You may withdraw your Coach Feedback Form and e-mail communications at any time. If you have any questions at any time, please contact:

Todd Gravois, Ph.D., or Sylvia Rosenfield, Ph.D.
Laboratory for Instructional Consultation Teams
3214 Benjamin Building, College Park, Maryland 20742
(301) 405-6886

I agree to release my Coach Feedback Form and e-mail communications with my consultants to the Laboratory for Instructional Consultation Teams database for research purposes.

_____ _____

Coach's Signature Date

Appendix E

Coding Framework: Directions and Descriptions

Purpose:

The purpose of coding the e-mail coaching responses is to analyze qualitatively the types of responses made by coaches when coaching novice consultants via e-mail. This will help to reveal what e-mail coaching of consultation skills looks like and in the future will allow a study of the relationship between coaching styles and effectiveness of coaching. The e-mail coaching responses will be analyzed along two dimensions: (1) *type*, or the communication skill used in the coaching response; and (2) *content*, or the consultative skill or task which is the topic of the coaching response.

Unit of Analysis:

The unit of analysis that will be used for coding e-mail coaching responses is the sentence. All of the sentences within each section of the e-mail coaching response are numbered for the purpose of coding. The reason for this discrete unit of analysis is that either the content or type of coaching response tends to change from sentence to sentence. However, there are times when a coach uses a compound sentence format that contains two discrete types of responses within one sentence. When this happens, it is acceptable to assign that sentence two "Type" codes.

Coding Process:

When beginning the coding process, it is recommended that you read through the entire e-mail section first and then go back to code each sentence independently. Code the "Type of response" first, then the "Content of response." At times the "Type" can help to determine what "Content" is the focus of the response.

The codes provided on the following pages should be assigned using a step-wise coding process. That is, for each sentence, the rater will make a series of decisions that will lead to a code; each decision further defines the codes that can be assigned. For the "Type of response" code, the decision questions include: Is the sentence a two-way interaction (between Coach and Consultant) or a one-way interaction (Coach's response to the taped interaction between Consultant and Teacher)? If it is a two-way interaction, one of three codes may be assigned (see next page). If it is a one-way interaction, another decision must be made: Is the response directive/evaluative, non-directive/non-evaluative, or open to interpretation? Once this decision is made, the appropriate code under the selected category should be assigned (see next page).

For the "Content of response" code, the initial step involves a decision about whether the content of the response refers to a problem-solving stage or task. If so, one of 12 codes may be assigned (see p. 4). If not, the code "None" is assigned. The next step is to decide if the sentence refers to a consultation skill or strategy, or if it mentions other content. If so, the appropriate code (see p. 4) should be assigned. If not, "None" should be indicated. Thus, each response will have at least two content codes: one or more indicating the problem-solving stage or task, and one or more indicating the consultation skill or other content. All content areas mentioned in the sentence should be coded.

Types of Communication Skills used in Coaching Responses

The "Type of coaching response" code indicates the communication skill that the coach used in responding to the consultant. The following flow chart provides the "Types of coaching responses" codes, their definitions, and the questions to guide your decision making.

<table>
<tr><td colspan="5">Is the communication a two-way interaction (between coach and consultant) or a one-way interaction (coach's response to the taped interaction between consultant and teacher)?</td></tr>
<tr><td>I. Two-way communication</td><td colspan="3">II. One-way communication</td><td rowspan="5"></td></tr>
<tr><td>A. Clarifying/ confirming</td><td colspan="3"><u>Is the response DIRECTIVE or NON-DIRECTIVE?</u></td></tr>
<tr><td>B. Soliciting information</td><td>A. Directive/ evaluative</td><td>B. Non-directive/ non-evaluative</td><td>C. Open to interpretation</td></tr>
<tr><td>B. Providing information/direction</td><td>1. Positive feedback</td><td>1. Support/ encouragement</td><td rowspan="2">1. Suggestion/ Information</td></tr>
<tr><td>D. Open to interpretation</td><td>2. Critical feedback</td><td>2. Observation/ inference</td></tr>
<tr><td></td><td></td><td>3. Reflective questions/ requesting clarification</td><td>2. Other</td></tr>
</table>

<u>"Type of response" Definitions</u>:

Clarifying/confirming: paraphrasing, clarifying, or perception checking what the consultant wrote (in a reflection or e-mail) to the coach, in order to ensure mutual understanding or gain greater understanding of the consultant's actions.
Soliciting information: requesting new information from the consultant, with a direct or indirect question.
Providing information/direction: providing the consultant with information or a direction about the coaching process.
Open to Interpretation: the response is not clearly one of the above 3 codes, or without additional information it could be more than one of these codes.

Directive responses: responses that are directive and evaluative, and clearly convey that the consultant should perform/ continue performing specific actions or skills.

> **Critical feedback**: conveying the judgment that the consultant should have performed an action or skill differently. It may include the reason for the judgment or not.
> **Positive feedback**: conveying a positive judgment of the consultant's skills or actions, or of an event, by using evaluative/qualitative words or phrases.

Non-directive responses: responses that are non-directive and non-evaluative, and involve reflection on the consultant's actions or the problem-solving process.

Observation/inference: describing either an overt event, situation, or behavior, or a covert perception, feeling, or attitude, without evaluation.

Support: communicating understanding or encouragement to the consultant, for the primary purpose of increasing her/his comfort level and confidence. This includes both validations and personal information.

Reflective questions/requesting clarification: asking questions of or requesting clarification from the consultant to stimulate her/his thinking about the problem-solving process, the teacher's perceptions, or the student's skills.

Open to Interpretation: responses that do not clearly convey a direction or evaluation, nor are they clearly non-directive and non-evaluative. The reader has to interpret the coach's meaning—whether the intent is to direct or to reflect—and is not certain if the response implies action.

Suggestion/Information: encouraging the consultant to take or consider a specific action or providing information in an instructive way to increase the consultant's knowledge base. Can be a direction (e.g., "You need to…"), a gentle suggestion (e.g. "One thing you might want to consider…"), or descriptive information telling how to perform a skill.

Other: the response is somewhere between directive/evaluative and non-directive/non-evaluative other than suggestion/ information.

Content of Coaching Responses

The "Content" code indicates the consultative stage and skill or focus that was the topic of the coach's response. The problem-solving process codes were obtained directly from the Instructional Consultation manual list of problem-solving steps and associated tasks. The skills codes are those often used to complete a problem-solving step. Finally, occasionally the topic of the coach's response is not a consultative skill but rather something related to the coaching process, so this is an additional category that may be coded. Code the problem-solving process and the skills/focus separately; that is, each sentence must have a code for both problem-solving process and skills/focus. If there is no mention of either the problem-solving process, or a skill, code "None". Code every content area that is mentioned in the response. The following flow chart provides the "Content of coaching responses" codes, their definitions, and the questions to guide your decision making.

Does the response mention a problem-solving stage or step?		**Does the response mention a skill or is the focus on coaching?**
A.General (no stage specified)		A. Skill or Strategy
B.Contracting		1. Communication Skills
C.Problem ID & Analysis		2. Collaborative Stance
1. Description of concern		3. SDF
2. Defining the problem: Observable/measurable		4. Charting/Graphing
3. Instructional level		5. CBA/data
3. Prioritizing		6. None
4. Current performance		
5. Goals		**Does the response mention other content?**
6. Multiple PID codes/General		A. Coaching Process
D.Intervention Design & Implementation		B. Other
E.Intervention Evaluation		
F. Closure		
G. Multiple stages		
H. None		

"Content of response" Definitions:

Problem solving process: focuses on one of the stages of the IC problem-solving process or any of the tasks associated w. the stages.

General: refers to the IC problem-solving process without specific mention of any stage or skill.

Contracting: refers to any of the tasks of Contracting (see p. C-4 in manual) or more generally to the Contracting stage.

Problem Identification and Analysis:

Description of concern: refers to exploring the initial description of the teacher's concerns in general terms, with no further discussion of narrowing or exploring concerns.

Defining the problem: Observable/Measurable: refers to discussing factors that may impact or be related to the area of concern and to the task of clarifying teacher descriptions in objective and observable terms. This may include:

- exploring events that happen before and after the behavior
- exploring previous instructional and management strategies
- exploring conditions under which the student does succeed.
- eliciting behavioral descriptions of the concern (what)
- eliciting the conditions/setting in which the concern occurs (where/when)
- summarizing concerns in observable and measurable terms

Prioritizing: refers to the task of prioritizing the teacher's concerns, choosing one concern to focus on.

Instructional Level: refers to discussing instructional level, match, or what the student knows, without mention of data.

Current Performance/Baseline: refers to the tasks of eliciting possible data collection procedures for measuring current performance as well as collecting and tabulating data on current performance/ baseline.

- discussing the need for baseline data collection
- deciding how to collect baseline and ongoing data on operationalized concerns
- discussing/tabulating baseline data
- determining current performance

Goals: refers to the task of establishing goals.

- discussing the teacher's expectations for the class or student in the areas of concern
- comparing current and desired performance
- setting specific observable/measurable goals

Multiple/General: refers to multiple PID tasks or to the PID stage without specific mention of any task or skill.

Interventions: refers to any of the tasks involved in designing or implementing interventions (see pp. C-6 &7 in manual).

Intervention Evaluation: refers to any of the tasks involved in evaluating the effectiveness of interventions:

- collecting and charting data after the intervention has been implemented
- eliciting the teacher's perception of progress being made
- comparing student performance with goals.

Closure: refers to any of the tasks involved in closing or terminating the consultation relationship (see p. C-8 in manual).

Multiple stages: refers to more than one stage.

Consultation Skills and Strategies: skills the consultant must develop and use to move through the problem-solving stages and tasks.

Communication Skills: refers to the consultant's use of communication skills by:

- mentioning "communication skills"
- mentioning a specific communication skill, such as paraphrasing, clarifying, summarizing, questioning, offering information, perception checking, etc.
- giving an example "in quotations" of a specific communication skill even if not named
- Note: terms such as "dialogue" or "discussion" that do not make reference specifically to communication skills should not receive this code.

Collaborative Relationship: refers to the collaborative nature of the relationship:

- the teacher's level of involvement
- the development of shared perceptions
- the use of collaborative language ("we" vs. "I")
- joint decision-making
- Note: phrases such as "with the teacher" or "you both" should receive this code.

SDF: refers to all parts of the SDF *except* the graph (see below).

Charting/Graphing: refers to the use of the graph portion of the SDF and the plotting of data.

Curriculum-based Assessment (CBA)/data: refers to any of the tasks or skills involved in planning or conducting a CBA or other informal assessment, as well as any discussion of using data to determine instructional level or to narrow down the concern:

- discussing the need to collect data to determine instructional level or to narrow the concern
- developing a plan for an instructional assessment or for collecting data to narrow the concern
- conducting a curriculum-based or informal classroom assessment (may include reading, math, writing CBA, informal work w. the student, task analysis, diagnostic teaching, etc.) or ABC observation, etc.
- analyzing the curriculum-based or informal assessment data obtained

Other Content: Refers to content other than that listed above, such as the coaching process or other topics.

Coaching Process: the subject/focus of the sentence is the coaching relationship between the coach and consultant, including confidentiality, problems with e-mail or taping, selection of focus areas, etc. Note: A problem-solving step or consultation skill code should be assigned in addition to "Coaching" only if the sentence refers to specific focus skill areas.

Other: the subject/focus of the sentence is on a topic other than the problem-solving process, skills, or coaching. Examples include discussions of parental involvement, special education, ethical issues, teacher perceptions, the student, etc.

Examples of Content Coding:

Statement	Type	Content
The next step is to narrow down work completion and make it more specific and observable.	I/S	O/M, None
You need to move toward making these concerns more specific and observable, by clarifying what the teacher means by work completion.	S/I	O/M, CS
You did a great job of clarifying the teacher's statements.	PF	None, CS
You did a great job of clarifying the teacher's concerns to make them more specific.	PF	CS, O/M

Note: O/M = Observable/measurable
CS = Communication skills

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