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School-Based Consultation and Assessment:

Communication Patterns and Educational Implications

by

Jeanne Nester Rolih

A dissertation submitted to the Graduate Faculty in Educational Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York.

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Abstract

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by

Jeanne Nester Rolih

Advisor: Professor Carol Kehr Tittle

The majority of school consultation studies have reported that teachers asked to consult with the school psychologist due to their difficulty in managing the academic and/or behavioral difficulties of a child or children in their class. However, the specific nature of these problems as well as the manner in which they were assessed and treated are rarely described in detail. That is, researchers have tended to focus on process-related issues (i.e., who, if anyone, is responsible for directing the course of the meeting) and have omitted issues relating to content (i.e., what exactly was discussed) and context (i.e., why the teacher desires consultation). Moreover, the communication patterns that typify consultation conversations focused on the assessment and remediation of children's academic difficulties were never examined, even though the psychoeducational assessment of children is often a necessary step in the consultative problem-solving process (Gutkin & Curtis, 1999; Johnson, 1990).

The purpose of the present study is to examine the communication and cognitive patterns that occur when a psychologist and a teacher meet to discuss the psychoeducational assessment results of a child referred by the teacher for academic underachievement. An additional intent of the study is to examine the

differences in the cognition and verbal behavior of experienced or "expert" school psychologists and school psychology interns or "novices."

This study consists of the audio taping of a teacher and a school psychologist when discussing the psychoeducational assessment results of a child referred for academic underachievement. Psychologists with more than seven years of professional consultation and assessment experience were recruited for the study as experts. Psychologists with less than one year of formal consultation and assessment experience were recruited for the study as novices. A total of six experts and six novices along with their respective teacher-consultees were recruited for the study.

The audio-tapes were transcribed and coded according to the Consultation Analysis Record-Revised (Rolih, 2001). This data provided the basis for the preliminary descriptive analyses, which were conducted on two groups of participants: (1) 12 psychologists and 12 teachers and (2) 6 experts and 6 novices. Analyses of teachers and psychologists communication indicated that psychologists spent most of their time describing or explaining their assessment results to teachers. However, both teachers and psychologists shared information or contributed to the content of the conversation, with psychologists speaking more than teachers. Analyses of experts and novices communication, which entailed dividing the transcripts into equal thirds for comparison (Tryon, 2003), indicated that experts encouraged and maintained teacher input throughout the first, second, and final third of the meeting. Novices, in contrast, did not encourage teacher input until the final third of the meeting.

Qualitative analyses were conducted on 4 expert and 5 novice transcripts, since two expert transcripts were dropped due to differences in the case/referral question and one novice transcript depicted a professional in transition from novice to expert status. These analyses found that experts gave complete explanations of their assessment data. That is, they addressed the two domains of consultation and assessment: the child during the evaluation and the child in the classroom. This finding suggests that experts attempted to confirm or validate their impressions of the child with teachers. Novices, on the other hand, addressed only one of the two domains of consultation and assessment: the child during the evaluation. That is, they tended to focus on their own assessment data and did not endeavor to generalize their findings to the classroom.

In addition, experts were able to retrieve relevant knowledge fluently due to their deep and integrated knowledge base of assessment. They could also identify meaningful patterns in their data. These characteristics are hallmark features of expert thought (Glaser & Chi, 1988; National Research Council [NRC], 2000). Novices, in contrast, appeared to have a less deep and integrated knowledge base of assessment, so they did not retrieve relevant knowledge effortlessly. Further, they did not identify meaningful patterns in their data.

Finally, comparisons of expert and novice behavior indicated that experts recommended classroom interventions as a primary goal for the child and special services (e.g., resource room) as an adjunct to classroom interventions. Experts also developed classroom interventions in dialogue with teachers during the meeting. This suggests that experts have stored solutions to problems within their domain of professional competency, which is another characteristic of expert

thought (Glaser & Chi, 1988; NRC, 2000). In contrast, novices tended to recommend special services as the principal intervention for the child, and they rarely recommended classroom interventions. They also tended to present their recommendations to teachers and did not generate new or modify existing recommendations during the meeting. Thus, it seems that novices did not have stored solutions to problems within the domain of consultation and assessment.

This study builds on previous consultation studies in that it delimited the context of consultation activities (i.e., consultation and assessment for academic performance) and attended specifically to the content of conversations (i.e., verbal content and cognitive patterns). In addition, this investigation of experts and novices suggests that by focusing on a particular problem area or context, the thinking patterns of novice and expert school psychologists can be more closely examined and more accurately described. Finally, this study provides validity-related evidence for intelligence test interpretations and use for the problem of academic achievement. The study shows that intelligence tests have meaningful interpretations in use by professionals who integrate test scores, behavioral observations of the child, and information from teachers. That is, the school psychologist in dialogue with the teacher "validates" his or her clinical impressions based on test scores and observations of the child. Recommendations for classroom use are then developed in interaction with the referring teacher.

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CHAPTER 1

Introduction

The art and science of consultation in the schools has been an area of great interest for school psychology scholars. The primary reason for this interest is the growing recognition that the ability of school psychologists to serve children is mediated to a large extent by their ability to consult with teachers effectively (Gutkin & Curtis, 1999). Briefly, consultation is considered an indirect model of psychological service delivery because the treatment services that are ultimately delivered to the client (i.e., student) as a result of the consultation process are implemented by the consultee (i.e., teacher), not the consultant (i.e., psychologist). Thus, without the consultee's thorough understanding of the need for and potential benefits of treatment, it is unlikely that the consultee will follow through with the recommended treatment plan. This lack of follow through, in turn, renders the consultant powerless to provide assistance to the client.

The consultant-consultee relationship is considered the principal component of effective consultation. Accordingly, researchers have expended much effort in examining the interpersonal variables that are associated with favorable results in consultation. Several variables have been identified as integral to the development of a positive consultative relationship. They include confidentiality of communication, voluntary participation of the consultee, encouraging the active participation of the consultee, and non-hierarchical power structures between the consultant and consultee. However, there has been great debate concerning the relationship of the last variable to effective consultation. Specifically, some scholars have questioned whether non-hierarchical power structures facilitate a smooth progression through the three-stages of the consultative problem-solving process (Bergan

& Tombari, 1976; Erchul, 1987, Erchul & Chewning, 1990) -- a process which includes the problem identification stage, the problem analysis/plan implementation stage, and the plan evaluation stage. This controversy has resulted in a bifurcation of the field, with prominent scholars advocating either a collaborative, collegial model of consultation (Conoley & Conoley, 1992; Hughes & DeForest, 1993; Gutkin, 1996) or a directive/expert/prescriptive approach to school consultation (Erchul, 1987, 1999). Indeed, the results are equivocal, suggesting that both models may be useful in effecting favorable results in schools.

Limitations of the Consultation Empirical Literature

The research in this area has several limitations. Most notably, the majority of studies indicated that teachers desired to consult with the school psychologist due to their difficulty in managing the behavioral and/or academic problems exhibited by a child or children in their class. However, the specific nature of these problems, as well as the manner in which they were assessed and remediated, was very rarely described in detail. That is, researchers have tended to focus on process-related issues (e.g., who, if anyone, is responsible for directing the course of the meeting) and have mostly eschewed issues relating to content (e.g., what was discussed) and context (e.g., why did the teacher desire consultation). Moreover, the communication patterns that typify conversations pertaining to assessment and remediation were never examined, even though the psychoeducational assessment of children is occasionally a necessary step in the consultative problem-solving process (Gutkin & Curtis, 1999; Johnston, 1990). The purpose of the present study is to examine the communication and cognitive patterns that occur within a specific context of school consultation. The context in question is meetings between consultants and consultees wherein the

psychoeducational assessment results of a child referred for academic underachievement are discussed.

Contributions from the Counseling Psychology Empirical Literature

Admittedly, there are obvious and important differences between the fields of counseling and school consultation. These differences include the reasons for seeking professional assistance and the manner of delivering psychological services to clients (i.e., direct versus indirect). Nevertheless, much can be gleaned from the counseling psychology literature, since these researchers have occasionally focused on the content-related variables that underlie effective counseling. One particular and especially promising line of inquiry has sought to identify the salient communication patterns and specific statements that contribute to client (i.e., counselee) engagement in the therapeutic process. This research is very much analogous to the teacher-psychologist relationship in school consultation, since without teacher engagement in the consultative problem-solving process, the psychologist will be unable to provide educational interventions to the child.

Tryon (1985) defined client engagement in counseling as an occurrence in which the client returns to his or her counselor for at least one session after the intake interview. She and her colleagues have inquired into the relationship between client engagement and counselors who clearly define client concerns via effective questioning (Tryon, in press), counselors who respond to clients in a empathetic manner (Tryon, 1989a, 1989b, 1990), and counselors who educate clients about their concerns (Tryon, 1986, 1989a, 1989b, 2003). It is noteworthy that most of the studies utilized an expert (i.e., experienced therapist) - novice (i.e., therapist trainee) paradigm as a means of further clarifying which communicational patterns are vital to client engagement. The results showed positive and significant relationships in all

three areas of inquiry, with experts frequently demonstrating significantly higher rates of client engagement. That is, experts, as compared to novices, tended to engage in more of the three aforementioned behaviors. Consequently, experts helped their clients to feel more satisfied with the initial session and, thus, more apt to return for subsequent sessions.

Interestingly, consultation researchers have at times reported somewhat similar findings with two notable exceptions that will be addressed below. Consultation researchers have found that skillful questioning on the part of the consultant is positively associated with consultee willingness to pursue consultation and follow through with consultant recommendations (Bergan & Tombari, 1976; Erchul, 1987). In addition, empathetic responding on the part of the consultant has been positively correlated with consultee engagement in the problem-solving process (Hughes & DeForest, 1993; Maitland, Fine & Tracey, 1983). These findings highlight the importance of examining the content-related variables in consultation research and suggest that examination of the salient communication patterns of consultation partners may be a fruitful line of inquiry for consultation scholars.

There are two important content-related associations observed by counseling researchers that have not yet been examined by consultation investigators. The first involves the consistent finding concerning the relationship between educating clients about their concerns and client engagement in counseling. The second pertains to the qualitative differences between experts and novices in their ability to educate clients about their problems. These findings are instructive to consultation researchers, since they highlight two important empirical questions to be addressed in future research.

The present investigation will build on the findings from counseling psychology. Specifically, the study will examine the degree to which consultants educate or explain their assessment results to consultees, as well as the extent to which consultants link the assessment results to a child's academic difficulties and to possible classroom interventions. In addition, the study will examine the qualitative differences between experts and novices to determine the extent to which expert and novice school psychologists differ in the types of statements made to teachers. These findings will contribute to the development of a model of explanations within the context of consultation and assessment of children with academic difficulties.

Contributions from the Educational Psychology Empirical Literature: A Model for Good Explanations

Although there is a strong empirical association between client education and client engagement in counseling, the issue of how to educate clients effectively about their concerns has not been thoroughly described in the counseling literature. However, a variant of this issue has been discussed in the educational psychology literature, wherein a generic model for teachers providing instructional explanations to students has been proposed (Leinhardt, 2001). In short, the model outlines the critical features or goals of a good instructional explanation. These goals include establishing a significant question or problem, having a useful set of examples available and completing the explanation by identifying core principles, attaching the new information generated to prior knowledge of the same sort, identifying the conditions of use, and resolving the nature of errors. Instructional explanations that are comprised of these critical features seem to encourage intellectual conversations that are focused and meaningful to students. In

other words, instructional explanations make learning purposeful and facilitate comprehension of key concepts at a more profound level.

Leinhardt's model is one example of a cognitive analysis of teaching derived from an expert-novice perspective. The most prevalent method for examining expert thinking has been the analysis of verbal protocols (i.e., content variables) generated by experts as they do tasks (Pressley & McCormick, 1995). Glaser and Chi (1988) summarized the major findings concerning the nature of expert thinking. These findings include (1) experts excel mainly in their own domains, (2) experts perceive large meaningful patterns in their domains, (3) experts are faster than novices at performing skills in their domain and quickly solve problems with little error, (4) experts have superior short-term memory, (5) experts see and represent problems in their domain at a deeper (more principled) level than novices, whereas novices tend to represent problems at a superficial level, (6) experts spend proportionately more time analyzing problems qualitatively than do novices, and (7) experts have strong self-monitoring skills.

Leinhardt analyzed the verbal protocols of expert and novice teachers in order to ascertain which teacher statements or explanations contributed to core learning moments in the classroom. Those explanations that deliberately facilitated and supported learning were considered good instructional explanations (Leinhardt, 2001). It is notable that most of the good instructional explanations were provided by "expert" or experienced teachers. Leinhardt's model of instructional explanations in combination with the major findings from the expert literature will be useful in identifying the principal characteristics of a good consultative explanation. These findings and the findings from the present study will contribute to the development of a model for consultation and assessment of children with academic problems.

School Consultation and Assessment

At this point, it must be reiterated that the process of referring a child for a psychoeducational assessment is one way of initiating consultative services. Indeed, the critical distinction between consultation services (i.e., indirect model) and other forms of psychological services, such as counseling (i.e., direct model), is not whether the psychologist interacts directly with the child, but that the educational interventions are delivered to the child by the teacher. Consequently, traditional assessment activities conducted by the psychologist can be viewed as one component of school consultation services, provided the teacher is responsible for the provision of educational interventions to the child (Gutkin & Curtis, 1999).

The current consultation or school psychology literature affords no theoretical or practical framework delineating how to convey psychoeducational assessment results to teachers in a meaningful and sound manner. Equally important is the lack of a model outlining how to link assessment findings to a child's academic difficulties and to possible classroom interventions that are acceptable to teachers. Finally, there are no data which compare the verbalizations of expert and novice consultants when explaining assessment results to teachers. Comparisons such as these are critical in understanding how to consult with teachers effectively, particularly within the context of consultation and assessment.

The proposed study is based on a synthesis of findings from the fields of school psychology, counseling psychology, and educational psychology, all of which have been described above. It is also the logical extension of a preliminary study by Rolih (2001), who examined the communication patterns of four teachers and two experienced psychologists engaged in the process of reviewing the psychoeducational assessment results of the children these

teachers referred for evaluation. In the preliminary study, Rolih sought to determine whether the psychologists' statements were mostly prescriptive (i.e., generating interventions to deal with a problem), supportive (i.e., acknowledging that there is a problem), or instructive (i.e., explaining the assessment results and discussing the possible implications for the student) in nature. Teachers' verbalizations were similarly categorized. Rolih found that psychologists and teachers shared several responsibilities, such as making important contributions to the conversation (e.g., discussing the behaviors of the child that affect classroom achievement) and supporting each other as they shared their thoughts and opinions. However, in addition to the shared responsibilities, psychologists assumed sole responsibility for several critical components of the problem-solving process. These responsibilities included explaining the assessment results to the teacher and relating these findings to the child's academic difficulties, providing a structure for the meeting in order to ensure that all important findings and issues would be addressed, and developing treatment plans with teachers that could be easily implemented in the classroom. Rolih noted that these findings must be interpreted with caution due to the small sample size and preliminary nature of the investigation.

The purpose of the current study is to test the strength and validity of the findings reported by Rolih (2001). Accordingly, the study examined the communication patterns and specific statements of teachers and school psychologists when reviewing the psychoeducational assessment results of a child referred for academic underachievement. In the present study, a larger sample size of six expert (i.e., experienced) psychologists and six novice psychologists was employed. In addition, the study qualitatively and quantitatively examined the manner in which psychologists explain the

significant assessment findings to teachers and describe how the findings relate to a child's academic difficulties. The data from the present study is expected to contribute to the development of a model for consultation and assessment of children with academic difficulties.

Research Questions and Hypotheses

This study compared the communication patterns and specific statements of teachers and psychologists when discussing the assessment results of a child referred for academic underachievement. The study also examined the communication patterns and statements of expert and novice school psychologists as they consult with the teachers of children with academic problems. There are several guiding questions that are considered as the qualitative and quantitative differences between experts and novices are explored. Based on the findings from the consultation/school psychology process literature and Rolih (2001), it is expected that all school psychologists and teachers will demonstrate the following communication behaviors:

(1) Share information about the child's background/family dynamics, behavior, and individual characteristics that appear related to the child's academic difficulties.

(2) Be supportive of and open with each other, as these behaviors foster the development of a positive and collegial working relationship.

The above literature also suggests that school psychologists will assume unique responsibilities during the consultation meeting. Thus, it is expected that psychologists will evidence more of the following communication behaviors than teachers:

(3) Provide a structure for the meeting to ensure that all important issues and questions will be addressed.

(4) Explain the pertinent assessment findings to teachers.

(5) Assume responsibility for prescribing remedial interventions for children that are acceptable to teachers and, thus, have an increased likelihood of being implemented in the classroom.

The following three hypotheses are drawn from the counseling psychology research, research on teaching, and the expert/novice research. It is expected that experience and knowledge will influence the way expert psychologists understand and explain their assessment results to teachers. This experience and knowledge will be manifested in the following manner:

(6) Experts, as compared to novices, will give complete explanations of the relevant test data (see Appendix D). Briefly, a complete explanation is comprised of five parts: (1) a description of the test/subtests, (2) a statement about the test/subtests results, (3) an interpretation(s) of the test/subtest results, (4) a statement(s) which links the test data to the child's classroom behavior and academic difficulties, and (5) a question(s) which checks for the teacher's understanding of the explanation.

(7) Experts, as compared to novices, will address contradictions in the testing data. They will also address contradictions between the testing data and the teacher's classroom observations or the psychologist's own observations. Experts will explain these contradictions to teachers and check to make sure that teachers understand their explanations.

(8) Experts, as compared to novices, will see organized patterns (i.e., consistencies) or a profile in the data. Accordingly, expert/novice protocols will be examined for specific rules of thumb or heuristics employed to distinguish areas of agreement and disagreement among different aspects of the test data.

Quantitative analyses will be conducted using the Consultation Analysis Record (CAR) - Revised (see Appendix E). Qualitative analyses will also be

conducted. The linking of hypotheses to data analyses is discussed in Chapter 3.

CHAPTER 2

Literature Review

This chapter reviews the research literature from the fields of school psychology, counseling psychology, and educational psychology and focuses on the literature offering insight into the variables that underlie a theoretical and practical model of school consultation and assessment. The literature review has five sections. In the first section, a brief history of consultation is offered. In the second section, the school psychology research is presented with specific attention to the research on school-based consultation and the debate concerning the utility of collaborative versus directive models of consultation. This section has three parts and proceeds in chronological order with the earliest studies described first. The third section presents studies from the counseling psychology literature that address the issue of client engagement in counseling. The fourth section reviews findings from the educational psychology literature pertaining to instructional explanations and delineates the principal components of a good explanation. In addition, a summary of the research on the nature of expert thinking is given. This section concludes with a brief presentation of the nature of expert thinking as it relates to school psychology and counseling psychology. Finally, in the fifth section, a preliminary study examining the verbalizations of consultation partners engaged in the process of reviewing the psycho-educational assessment results of a child is described. In addition, a rationale for the current study is presented.

History of Consultation

Consultation has been broadly defined as an indirect model of delivering psychological services (Conoley & Conoley, 1992; Erchul & Martens, 1997; Gutkin & Conoley, 1990). Within this model, a consultant and a consultee

(i.e., caregiver) work together to optimize the functioning of a client in the consultee's setting and to increase the consultee's capacity to manage similar situations in the future. Consultation is referred to as an indirect model of psychological service delivery because a party other than the consultant is responsible for providing psychological treatment directly to clients.

Human service consultation began in Israel in 1949 when a psychiatrist, Gerald Caplan, and his small clinical team were assigned the task of attending to the mental health needs of 16,000 adolescent immigrants (Erchul & Martens, 1997). This assignment was complicated by several factors, such as the fact that the adolescents were housed at more than 100 different residential institutions within Israel, transportation within the country was often problematic, and there were more than 1,000 initial requests for assistance (Erchul & Martens, 1997). Caplan reasoned that he would have to utilize his professional resources more efficiently in order to meet the mental health needs of this large population. Hence, it was decided that rather than meet individually with the adolescents at clinics in Jerusalem, he and his team would travel to the various institutions around the country to meet with the caregivers of these adolescents (Erchul & Martens, 1997). Caplan believed that by meeting directly with the caregivers, he would be better able to address the needs of these adolescents than if traditional one-on-one therapy was offered.

Most scholars agree that the practice of school psychology is moving towards an indirect service delivery model (Gutkin & Conoley, 1990), as there is a growing emphasis on the inclusion of students with psychological disabilities in general education environments and because there are not enough qualified mental health staff to offer therapeutic services to the children who need it (Gutkin & Curtis, 1999). Equally important is the widespread belief among researchers that school-based consultation has great

potential for promoting the adjustment and academic achievement of youth. Consequently, many prominent school psychology academicians have systematically investigated the variables that are directly related to successful consultation. They have concluded that the interpersonal relationship established during the course of consultation is a key factor mediating the efficacy of consultation (Gutkin & Curtis, 1999).

Four principal variables are believed to be particularly important to the development of a positive consultation relationship: confidentiality of communication, voluntary participation, encouraging active participation of consultees during consultation, and coordinate power status (Conoley & Conoley, 1992; Gutkin & Curtis, 1999). Briefly, confidentiality of communication refers to the consultant's ethical obligation not to disclose comments made by the consultee to anyone in the school or elsewhere without the explicit consent of the consultee to do so. Voluntary participation means that a consultee can not be coerced, forced, or pressured into pursuing consultative services. In addition, it implies that a consultee retains final authority for accepting or rejecting intervention plans. Encouraging the active participation of the consultee by the consultant suggests that the consultee is actively engaged in the consultative problem-solving process.

The fourth and final variable, coordinate power status, pertains to the long-standing assumption that school-based consultative relationships should be collaborative and collegial rather than hierarchical and coercive (Gutkin & Curtis, 1999). That is to say, it is generally believed that the consultant and consultee should have shared and equal power in the decision making process. This idea is in stark contrast to more traditional models of psychological service, wherein doctor-patient or superior-subordinate power structures were advocated. This last area is highly controversial and has generated much

research in the field of school consultation. In the next section, studies which compare the utility of collegial, collaborative consultation to more directive, hierarchical models of consultation will be reviewed.

School Consultation Literature

In this section, the empirical findings from the extant literature of school consultation are reviewed. Attention is given to those studies that address the question of which relational process -- collaborative/collegial or hierarchical/directive -- yields more beneficial results in school consultation. The section is divided into three parts or phases as specified by Gutkin (1999). In phase one, the earliest consultation studies are presented. In phase two, the next generation of consultation studies is considered. Finally, in phase three, the most current research literature is reviewed, and an explanation for the seemingly incongruent findings in the field is offered.

Phase One: School Consultation as Originally Conceptualized

School consultation was originally conceptualized as a collaborative venture between teachers and psychologists (Gutkin & Curtis, 1982). The initial logic was based on the premise that the primary job of the school psychologist (i.e., consultant) was to help the teacher (i.e., consultee) learn how to help the children in his or her charge via the consultation process (Gutkin, 1999). This logic also arose out of the notion that while psychologists did have a great deal to offer teachers who were struggling with difficult children, they were limited to a certain extent by their lack of familiarity with the classroom environment and its effect on children's behavior. Thus, it was reasonable to assume that teachers would be resistant to being told what to do in their classrooms by professionals outside of the classroom, even psychologists (Gutkin, 1999). Indeed, most of the research during the 1970's and early to mid 1980's supported this conclusion. What follows below is a

review of the more prominent studies conducted during this early phase of school consultation research.

Gutkin (1980) investigated teacher reactions to consultation services provided by advanced school psychology graduate students. Teachers in this study were asked about their perceptions of the relative efficacy of consultation and if they felt it was important for them to become involved in the development of remedial plans for students who were experiencing difficulties. Teachers were also asked about their preference for consultation services relative to traditional psycho-educational testing services. One hundred and seventy-three teachers participated in the study, which occurred over a 14-week period. During this time, participating teachers had access to consultation services two and one half days per week, allotting little to no time for conducting psychoeducational assessments of children. In addition, the schools also continued to receive their regular allotment of traditional psycho-educational testing services. The school psychology consultants were trained behaviorally. That is, they employed the three-stage problem-solving model of consultation (i.e., problem identification, problem analysis/plan implementation, and plan evaluation). In addition, they were directed to address consultee problems in a collaborative manner, to appraise consultees of their right to accept or reject any ideas generated during this process, and to work directly with consultees (and not the child).

At the end of the 14-week period, teachers who participated in the study were asked to fill out a questionnaire inquiring about their reactions to consultation. The data showed that 84% of teachers found it helpful to have a psychological consultant on staff. In addition, 69% of teachers indicated that they found consultation services to be more effective than traditional testing services. The most interesting finding, however, was that 96% of teachers

indicated it was important for them to work with the psychologist in the development of remedial plans for their students who were experiencing academic or behavioral difficulties (Gutkin, 1980). Similar results were obtained by Gutkin and Hickman (1988). In the later study, it was observed that when teachers believed that consultation with a psychologist would enable them to resolve the difficulties of a hypothetical child, they indicated a preference for collaborative consultation rather than traditional testing services.

Babcock & Pryzwansky (1983) examined elementary school teachers' preferences for four models of consultation across five stages of the problem-solving process. The researchers were interested in the collaboration, mental health, medical, and expert/behavioral approaches to consultation. For the purposes of this review, the models will be differentiated on the level of directiveness adopted by the consultant during both the problem solving and the intervention phases. For instance, in the collaboration model, the consultant and consultee work together to identify the problem and plan the interventions. In contrast, in the medical and expert models, the consultant identifies the problem and develops the interventions. The mental health model is somewhat different from the other three models. In this model, the consultant helps the consultee to identify the problem by clarifying the consultee's perception of it. The consultee then implements the interventions that he or she developed. The five stages of the problem-solving process were described as follows: (a) the goal of consultation, (b) problem identification, (c) intervention planning, (d) intervention implementation, and (e) follow-up (Babcock & Pryzwansky, 1983).

Teachers participating in this study were sent a questionnaire and a hypothetical situation that was to be used as a reference when responding to

the items on the questionnaire. The hypothetical situation involved a boy who was referred to a psychologist because of behavioral and learning problems. Respondents were asked to rate each statement on the questionnaire, indicating their level of agreement with the statement ("1" definitely do not agree to "5" definitely agree). They were also instructed to rate the degree to which a particular model of consultation was preferred with respect to the five stages of the problem-solving process. Thus, the questionnaire was comprised of twenty questions with each item describing one of four approaches at one of the five stages of consultation.

The researchers found that the collaboration approach was rated significantly higher than the other three approaches. That is, the teachers preferred the consultation approach much more than the other three approaches. An interaction of model by stage of consultation was also observed. This analysis showed that the collaboration model was rated significantly higher at each stage of consultation than the other three approaches at each of their respective stages. There was one exception, however. At the follow-up stage, there was no difference between the ratings of the collaborative and medical models.

In summary, the studies reviewed above suggest that, as consultees, teachers prefer a collaborative model of consultation to more direct/prescriptive models of consultation (i.e., medical and behavioral-expert) and less directive models (i.e., mental health), which foster consultee-generated solutions to student problems. Teachers also indicated a preference for consultation services over traditional testing services. This preference was noted when teachers were afforded an opportunity to work collaboratively with the psychologist in the development of educational interventions if the

teachers thought the collaboration would be efficacious in ameliorating the academic and behavioral difficulties of a child.

Phase Two: To Collaborate or Not to Collaborate -- That is the Question

Beginning in the mid 1980's, several prominent scholars began to question the role of collaboration in school consultation. The most articulate critic was Witt (1990), who recounted a disturbing case study which highlighted the potential limitations of collaborative consultation. Witt described his experiences with a teacher with whom he had been consulting. He stated, "Upon observing her classroom, I saw violations to the first magnitude of nearly every tenet of effective teaching... Even though she expressed receptiveness to consultation, she repeatedly failed to carry out agreed upon assignments. In fact, I never saw her move from behind her desk" (pp. 367-368). Witt concluded that a collaborative model cannot work with every teacher, and he called for more research to determine whether consultation should, in practice, be more hierarchical than collegial.

In this section, the phase-two studies are presented. These are studies that challenge the fundamental assumption of collaboration in consultation. The review begins with an important study of consultation conducted before the advent of phase-two. This study is worth reviewing because it provided the theoretical and empirical foundation upon which the phase-two studies were developed.

The earliest study examining the utility of consultant directiveness in consultation was conducted by Bergan and Tombari (1976). In this study, 11 psychologists were trained in the application of traditional behavioral consultation techniques. The principal assumption of this model is that, in order for consultation to be effective, the consultant must guide the problem-solving process by using verbalizations which elicit information and/or

action on the part of the consultee. As mentioned previously, behavioral consultation typically involves three stages: problem identification, problem analysis/plan intervention, and plan evaluation (Bergan, 1970).

A sample of 806 elementary school children and their teachers participated in the study. The problem identification and problem analysis interviews, which involved the psychologist and teacher, were audio taped and subsequently coded using the Consultation Analysis Record ("CAR") (see Table 1). In addition, three measures of consultant skill were evaluated. First, consultant service efficiency measured the average time from referral to the initial interview and psychologist case load. Second, consultant skill in applying psychological principles referred to the flexibility in applying principles that relate directly to the enhancement of learning or adjustment of children (e.g., modeling, task alteration, differential reinforcement of other behavior). Finally, consultant interviewing skill reflected information regarding the topics discussed during consultation, the types of verbal messages emitted during consultation (e.g., inferences, summaries, validations), and the consultant's control of the problem solving process (i.e., the degree to which the consultant elicited information from the teacher).

Table 1

Bergan and Tombari Consultation Analysis Record (CAR)

Source Codes:
Consultant -- consultant is talking.
Consultee -- consultee is talking.

Control Codes:
Elicitor -- "an utterance that calls for a response in a particular content subcategory and a particular process subcategory" (p. 60).
Emitter -- "a verbalization that provides content and process information to a listener but does not call for a specific response on the part of the listener" (p. 62).

Content Codes:
Background Environment -- "verbalizations concerning 'remote' environmental conditions related to behavior" (p. 47).
Behavior Setting -- "verbalizations referring to antecedent, consequent, and sequential conditions occurring contiguously with a client's behavior" (p. 48).
Behavior -- statements addressing "what the client does" (p. 50).
Individual Characteristics -- "verbalizations about individual attributes of the client" (e.g., gender, age, intellectual characteristics) (p. 51).
Observation -- verbalizations referring to "observations and recording activities such as those involved in gathering data on client behavior" (p. 52).
Plan -- statements describing "one or more plans to solve the problem or problems presented by the consultee" (p. 52).
Other -- "a catch-all category to cover subjects not explicitly delineated in the other content subcategories" (p. 53).

Process Codes:
Specification -- verbalizations that "provide or elicit descriptive or definitional information regarding the various content subcategories under discussion" (p. 54).
Positive Evaluation -- statements indicating positive "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).
Negative Evaluation -- statements indicating negative "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).
Inference -- verbalizations that "provide or call for judgments as opposed to statements of fact" (p. 56).
Summarization -- statements that "review information discussed earlier in the interview or at some time before the interview" (p. 57).

(table continues)

Table 1 (continued)

Process Codes:
Positive Validation -- verbalizations that "call for agreement with regard to matters of fact" (p. 58).
Negative Validation -- verbalizations that "call for disagreement with regard to matters of fact" (p. 58).

Note. From *Behavioral Consultation and Therapy*, (pp. 44-63), by J. R. Bergan & T. R. Kratochwill, 1990, New York: Plenum. Copyright 1990 by Plenum Press. Adapted with permission.

Three multiple regression analyses were performed. First, problem identification was regressed on consultant variables. This analysis indicated that the efficiency of the consultant, the flexibility of the consultant, and the index of message control made significant contributions to the multiple correlation for problem identification. Thus, when the psychologist responded quickly to a request for consultation, applied psychological principles appropriately, and asked many questions of the consultee, the consultee viewed the problem identification interview as beneficial. Second, plan implementation was regressed on problem identification and consultant variables. In this analysis, only problem identification related significantly to the multiple correlation for the regression of plan implementation. In other words, a teacher was most likely to implement an intervention plan if he or she considered the problem identification interview to be helpful. Interestingly, the consultant characteristics had little influence on a teacher's willingness to introduce a treatment plan into the classroom. Third, problem solution was regressed on plan implementation, problem identification and consultant variables (Bergan & Tombari, 1976). In the final analysis, they observed that plan implementation accounted for 95% of the variation in problem solution; no other variables reached significance. Thus, a problem was most likely to be resolved if the teacher followed through with the

implementation of the intervention. The authors reported that the most notable finding was the impact consultant variables had during the problem identification phase and how they accounted for so little variation in the plan implementation and problem solution phase. Indeed, it appeared that when the consultant was effective during the problem identification phase, the teacher continued to pursue consultation services and to follow through with recommendations. Conversely, when the consultant was ineffective during the problem identification interview, the teacher no longer desired consultation.

Perhaps the most provocative and frequently cited paper in the field of consultation is Erchul's (1987) investigation of the role of interpersonal power in behavioral consultation. Within the context of consultation, interpersonal power refers to the consultant's ability to establish and maintain interview control in order to ensure that the objectives of consultation can be achieved (Bergan & Tombari, 1976). Four specific questions were addressed in this study. First, who exerts more control during the process of consultation, the consultant or the consultee? Second, is the pattern of influence consistent, or does is it change across the various stages of consultation? Third, what is the relationship between consultant control and his or her perceived effectiveness? Finally, to what extent does consultee control affect his or her degree of participation in the consultation process (Erchul, 1987)?

Eight school psychology doctoral students served as consultants to eight consultees with backgrounds in regular education, special education, or mental health. Consultants were instructed to conduct and audio-tape the problem identification, problem analysis/plan implementation, and plan evaluation interviews with their respective consultees. Several measures were utilized in this investigation. First, after the plan evaluation interview,

consultees completed the Consultant Evaluation Form ("CEF"), which assessed their perceptions of consultation outcome and consultant efficacy (see Table 2). The CEF is a 12-item, 7-point rating scale with scores ranging from (1) strongly disagree to (7) strongly agree. The total score range is from 12 to 84.

Table 2
Consultation Evaluation Form (CEF)

1.	The consultant was generally helpful.
2.	The consultant offered useful information.
3.	The consultant's ideas as to the primary goals of schools were similar to my own ideas.
4.	The consultant helped me find alternative solutions to problems.
5.	The consultant was a good listener.
6.	The consultant helped me to identify useful resources.
7.	The consultant fit well into the school's environment.
8.	The consultant encouraged me to consider a number of points of view.
9.	The consultant viewed his or her role as a collaborator rather than as an expert.
10.	The consultant helped me find ways to apply the content of our discussions to specific pupil or classroom situation.
11.	The consultant was able to offer assistance without completely "taking over" the management of problems.
12.	I would request services from this consultant again, assuming that other consultants were available.

Note. From "A Relational Communication Analysis of Control in School Consultation," by W. P. Erchul, 1987, *Professional School Psychology, 2*, p. 116. Copyright 1987 by Lawrence Erlbaum Associates. Reprinted with permission.

Second, two measures of consultant perceptions regarding consultee participation were obtained. They were first obtained after the problem

analysis interview, where the consultee's degree of participation in the collection of baseline data was evaluated. They were obtained again after the problem evaluation interviews. The focus at this time was the degree of consultee participation in the implementation of the treatment plan. Finally, the audio tapes were coded according to the Rogers and Farace (1975) relational communication coding system (see Table 3). In short, this system yields two key variables, domineeringness and dominance. The former is an index of bids for control (e.g., by person A), regardless of whether they were accepted or rejected (e.g., by person B). The latter, in contrast, reflects the percentage of bids for control (e.g., by person A) that were accepted (e.g., by person B).

Table 3
Rogers and Farace (1975)
Relational Communication Coding System

Within the Rogers and Farace (1975) relational code, each statement is assigned a three digit code.

1. The first digit refers to the speaker (i.e., consultee or consultant).
2. The second digit specifies the grammatical form of the message (e.g., assertion, question).
3. The third digit indicated the meta-communicational function the message serves relative to the message that preceded it (e.g., answer, topic change).

Next, each message receives a control code based on second and third digit code combinations. There are three control codes:

1. "One-up," an attempt to control the relationship:
2. "One-down," an acceptance of or a request for the other person to control the relationship.
3. "One across," a neutral message considered to have no implications for relational control.

Finally, control codes are tabulated individually to create monadic variables (e.g., person A's percentage of one-up messages) and/or combined in sequence to operationalize complementary (i.e., dissimilar control styles) and symmetry (i.e., similar control styles).

Two primary variables can be derived from the coding system: domineeringness (a monadic variable) and dominance (a dyadic variable reflecting complementarity).

Domineeringness for person A is defined as the number of A's one-up messages divided by the total number of A's messages.
Dominance for person A is the proportion of one-down messages given by Person B to all one-up messages given by A.

Note. From "Quantifying Verbal Interactions in School-Based Consultation: A Comparison of Four Coding Schemes," by B. K. Martens, W. P. Erchul, and J. C. Witt, 1992, *School Psychology Review, 21,* pp. 115-116. Copyright 1992 by the National Association of School Psychologists. Adapted with permission of the publisher.

Erchul found that consultant's scores on the domineeringness and dominance indices were significantly higher than those of the consultees, indicating that consultants had greater control of the interview across all stages of the consultative process. Furthermore, consultant dominance scores were strongly ($p<.08$), but not significantly, related to consultant effectiveness (i.e., CEF) scores. Consultant domineeringness scores and CEF scores were not significantly related. Alternatively, consultee domineeringness scores were

significantly and negatively correlated with consultants' perception of consultee participation during the problem analysis (i.e., baseline data collection) period. However, this relationship was not significant during the treatment plan implementation phase. Taken together, the consultee data showed that consultees with high domineeringness scores were rated as less willing to participate in baseline data collections, but not necessarily in treatment plan implementation (Erchul, 1987). Erchul concluded that behavioral consultation is not typified by a collaborative, non-hierarchical relationship between teachers and psychologists and argued for further empirical scrutiny of the long-standing assumption that school consultation should be collaborative.

Erchul and Chewning (1990) sought to replicate the findings of Erchul (1987) by using Folger and Puck's (1976) relational communication coding system (see Table 4), which analyzes requests and responses to those requests during a consultation interview. In this investigation, the researchers examined the relationship between the aspects of interpersonal control within the consultation relationship and how this control influenced consultee perceptions of the consultative experience. Consultants were 10 doctoral students in school or counseling psychology. Consultees were 10 teachers in public schools, who worked with children ranging in age from 4 to 17 years. The children were referred for academic or behavioral problems. Consultants were instructed to conduct and audio tape the problem identification, problem analysis and problem evaluation interviews. After the problem evaluation interview, consultees completed the Consultation Evaluation Form.

Table 4
Folger and Puck (1976)
Request-Centered Relational Coding System

The Folger and Puck coding system considers only requests and responses to these requests rather than all verbal messages. Coding only request/response transactions ensures that information about the interaction will be obtained because every request demands some type of response. Specifically, the F-P codes Person A's requests or "bids" (e.g., questions, instructions, orders) and person B's responses to these requests (e.g., acceptance, rejection, evasion). Bids are coded as (a) dominant or submissive and (b) affiliative or hostile based on what Person A has asked for and how it was phrased. Dominant bids require that some action be taken, whereas submissive bids seek permission to take an action. Similarly, affiliative bids indicate the presence of polite terms or friendly intonation, whereas hostile bids denote rude language or unfriendly intonation. Responses to requests are then coded as accepted, rejected, or evaded based on Person B's reply. F-P coding requires verbatim transcripts and/or audio tapes.

Note: From "Quantifying Verbal Interactions in School-Based Consultation: A Comparison of Four Coding Schemes," by B. K. Martens, W. P. Erchul, and J. C. Witt, 1992, *School Psychology Review, 21,* pp. 117-118. Copyright 1992 by the National Association of School Psychologists. Adapted with permission.

In line with Erchul's prior findings (1987), it was hypothesized that consultants would control the consultation process via direct bids (e.g., questions, instructions, or orders) or bids with polite connotations. In contrast, consultees were predicted to respond to these bids in a passive, accepting, and cooperative manner. Another intent of the study was to examine the degree of consistency of consultee and consultant behavior across the three interviews.

The results indicated that consultants controlled the consultation process through their frequent use of direct and polite bids. Indeed, they were much more likely to initiate a bid, with an average frequency of 93.5 requests as compared to an average of only 15 requests for consultees. Consultees, in contrast, complied with these requests six times more frequently than did consultants. Moreover, they displayed significantly more accepting and evasive responses than did consultants. Across the stages of the consultation,

consultants' bids were significantly higher during the problem analysis interview as compared to the problem identification and problem evaluation interviews. Similarly, their bids with polite intonations were significantly higher in the first two interviews than in the third interview. Finally, the analyses revealed a strong, negative correlation between consultee bids and consultee ratings of consultant effectiveness. Conversely, a relatively strong, positive association was obtained between consultant bids and their overall effectiveness ratings by consultees. Taken collectively, the results showed that the consultant controlled the problem-solving process of the consultation interview, and that the consultee "surrendered control" of this process to the consultant (Erchul & Chwening, 1990). Erchul and Chewning concluded that consultee passivity and cooperation might be a positive element in school consultation, since consultee assertiveness tended to produce negative outcomes.

Witt and associates (Witt, Erchul, McKee, Pardue, & Wickstrom, 1991) examined whether consultants and consultees had equal control of the consultative dialogue, as measured by the frequency of topic determination statements (i.e., statements which sucessfully changed the topic of conversation) made by each participant. Eight consultants and eight consultees participated in this investigation. The consultants were doctoral students from either school or counseling psychology programs. The consultees were from public schools and had backgrounds in regular education, special education, or mental health.

The data consisted of three audio-taped problem-solving interviews (problem identification, analysis, and evaluation) between the consultant and consultee. The data was coded according to the Tracey and Ray's (1984) coding system (see Table 5). Briefly, this system codes statements into one of two

categories, topic determination and topic continuation, depending upon the preceding statement of the previous speaker. Topic determination reflects the degree to which the consultant or consultee is successful in changing topics and, thus, provides a relative index of who is in control of the conversation. Topic continuation indicates the extent to which a conversation occurs without either individual seeking control (Martens, Erchul & Witt, 1992). In addition to these data, consultees were asked to fill out the Consultation Evaluation Form after completion of the problem evaluation interview. Finally, consultants were directed to rate consultees' willingness to collect baseline data as well as their willingness to carry out the treatment plan.

Table 5
Tracey and Ray (1984)
Topic Following and Topic Initiation Coding System

The unit for analysis in this system is each speaking turn of the consultant or consultee. With this method, each response is coded as topic following or topic initiation based on the immediately preceding statement of the previous speaker. Determining the topic of conversation can be viewed as a measure of control in the relationship: Does one participant talk about what they want as much as the other participant? Using this system, a statement/response is coded relative to the statement/response of the previous speaker. A statement is coded as topic following if it continues the topic of the previous speaker. Topic initiation is coded if the statement differs from the topic of the previous speaker in any one of five ways (e.g., different content, different time reference). Within this system, the topic initiation and topic following variables are transformed into contextual variables revealing the overall situation or setting of statements and ideas. The two contextual variables generated are topic determination and topic continuation. Topic determination reflects the degree to which the consultant or consultee is successful in changing topics and hence, provides an index of who is in control. Topic continuation is an indication of the extent to which a conversation occurs without either party seeking control.

Note. From "Quantifying Verbal Interactions in School-Based Consultation: A Comparison of Four Coding Schemes," by B. K. Martens, W. P. Erchul, and J. C. Witt, 1992, *School Psychology Review, 21,* pp. 119-120. Copyright 1992 by the National Association of School Psychologists. Adapted with permission.

The data analyses indicated that consultants were significantly more successful in determining topics (78%) than consultees (58%). In addition, the

data showed that topic determination varied significantly across the three stages of consultation for consultees. Consultees' successful topic determinations rose from .43 during the problem identification interview to .65 during the problem analysis and evaluation interviews. In contrast, mean levels of topic determination were relatively consistent across the three interviews for consultants (i.e., in the high .70's). Topic determination for the consultant was positively, though not significantly, related to both consultee and consultant ratings of consultation outcome, especially during the problem identification and analysis stages. Topic determination for the consultee had a low and sometimes negative association with consultee's evaluation of consultation outcome. However, the most important finding was that consultants use of topic determination statements during the problem identification interview was significantly and positively related to the consultee's willingness to carry out a treatment plan. In contrast, consultees use of such statements during problem identification was negatively related to this variable (Witt et al., 1991).

In summary, the phase-two studies successfully challenged the role of collaboration in consultation. These investigations showed that consultees view consultation more favorably when consultants direct the interview (i.e., problem-solving process) via their use of questions or instructions and consultees "surrender control" of the process to consultants (Erchul & Chewning, 1990). Moreover, the results indicated that consultees are more likely to follow through with consultant recommendations when consultants ask many questions during and control the course of the initial interview (Bergan & Tombari, 1976; Witt et al., 1991). Conversely, when consultees attempt to direct the initial interview with their questions, they view

consultation less positively, view the consultant as less effective, and are less likely to carry out a treatment plan.

Phase-three studies are presented next. This research attempts to refine and expand upon earlier empirical paradigms in order to determine which models of consultation are most beneficial given the specifics of the presenting problem. Below is a review of the major research literature from phase-three.

Phase Three: A Reconsideration of the Role of Collaboration in Consultation

Phase-three scholars revisit the issue of whether collaboration is a necessary element in school consultation. This contemporary research employs much larger sample sizes and more elaborate empirical models. The appropriateness of various statistical procedures is also considered, as investigators discuss how different statistical techniques may produce inconsistent results when applied to the same data. This review is not exhaustive because the research is ongoing. The review begins with the earliest research of this period.

Erchul, Hughes, Meyers, Hickman, and Braden (1992) examined consultee and consultant agreement concerning the consultation process and its relationship to consultation outcome. Agreement regarding the consultation process was defined as the consultation partners seeing the process in a similar way, understanding each other's roles, and working together as a team. It was hypothesized that more favorable consultation outcomes would be obtained when the dyad worked together as a team, had similar views regarding the process of consultation, and agreed on their respective roles and goals for consultation (Erchul et al., 1992).

This study was a cooperative effort comprising 61 consultant-consultee school-based dyads located in four different regions around the United States.

The consultants were advanced graduate students drawn from the fields of school psychology (n=33), counseling (n=8), special education (n=19), and adult education (n=1). The consultees were school-based professionals with backgrounds in regular education (n=35), special education (n=20), counseling (n=4), and unspecified training (n=2). Given the diverse training of the consultants, a variety of consultation models were employed, though the majority used the behavioral three-stage problem-solving model. Most dyads (67.2%) met on three to six occasions. At the end of the consultation, consultants completed the Consultant Final Perceptions Form, which assessed consultants' perceptions regarding the processes and outcomes observed in consultation. The consultees completed the Consultee Final Perceptions Form, which measured consultees' perceptions of the efficacy of consultation.

Data analyses showed that dyadic agreement on the roles of each individual, the goals of consultation, and the perception that they made a good team was significantly related to measures of consultant efficacy and consultation "beneficialness." More specifically, when consultants and consultees believed that they made a good team, the consultee was more likely to rate the consultation as beneficial, to perceive that his or her skills improved as a result of consultation, to indicate that the client's problem improved, and to rate the consultant as effective (Erchul et al., 1992).

The relationship of consultant directiveness and support to consultation outcome was examined by Hughes and DeForest (1993). Specifically, the extent to which an expanded model of behavioral consultation would engender positive consultation outcomes was explored. Expanded behavioral consultation refers to consultation that combines the procedural skill of behavioral interviewing with an emphasis on adapting one's approach to consultee characteristics (Hughes & DeForest, 1993).

Seventeen advanced school psychology doctoral students audio-taped their first interviews with 17 public and private school teachers. The teachers taught preschool (n=4), elementary (n=11), and middle/high school (n=2) children. Following the consultation interview, the consultees completed the Consultant Evaluation Form (CEF). The transcripts were coded in accordance with the Consultant Analysis Record (CAR), though only two categories of the CAR were utilized: process and control (see Table 1). The process category comprises seven subcategories, including negative evaluation, positive evaluation, inference, specification, summarization, negative validation, and positive validation. The control category consists of elicitors (i.e., an utterance that calls for a response) and emitters (i.e., verbalizations that provide information to a listener). Transcripts were also coded a second time, where the relationship function (i.e., support, nonsupport, or neither) was analyzed. Support refers to giving or seeking agreement, accepting the consultee's behavior or feelings, acknowledging the complexity/difficulty of a problem, and positively evaluating the consultee's efforts. Nonsupport was defined as disagreeing with or negatively evaluating the consultee and making demands of the consultee. Neither was coded when statements did not meet criteria for either support or nonsupport (Hughes & DeForest, 1993).

Three types of analyses were conducted. First, the percentages of consultant process and control statements were calculated. It was observed that consultants expressed elicitors 34% of the time and emitters 66% of the time. Within the process category, consultants specification emitters were most frequently coded (27%), followed by positive validation elicitors (20%) and positive validation emitters (17%). Consultants uttered an average of 7.2% supportive statements. Second, the CEF scores, which range from 12 to 84, were analyzed. The consultees reported that they were pleased with the

consultation services, as shown by an average CEF total score of 72.36. In addition, a majority of consultees (76%) indicated that they did something different as a result of consultation, and 50% reported that the child's problems had improved as a result of consultation (Hughes & DeForest, 1993).

Finally, correlational analyses were run, and two significant findings emerged between three CAR categories (consultant verbalizations only) and CEF scores. First, the total CEF scores were positively correlated with inference emitters and supportive verbalizations, whereas they were negatively correlated with positive validation elicitors. These findings suggest that a consultant who approaches the problem solving interview by generating hypotheses and offering supportive statements to the consultee are viewed as more effective. In contrast, when consultants ask too many close-ended questions as a means of determining agreement regarding matters of fact, they are viewed less favorably. Second, a trend toward significance was noted for total elicitors to be negatively correlated with CEF scores. This finding and the above negative correlation between total CEF scores and positive validation elicitors suggests that controlling verbalizations (i.e., elicitors) may be more effective in traditional behavioral consultation (Bergan & Tombari, 1976; Erchul, 1987), where the consultant is trained to adopt a more directive and structured stance, than in an expanded model of behavioral consultation, where a more flexible and supportive stance is advocated. Indeed, it appears that "different consultant verbal behaviors may be differentially effective in different models of consultation" (p. 369).

Erchul and colleagues further explored the communication processes in school consultation (Erchul, Covington, Hughes, & Meyers, 1995). Using a larger and more diverse subject pool, the researchers expected to find that more favorable outcomes of consultation would be obtained when the

consultee followed the lead of the consultant by not directing questions to or making requests of the consultant. Consultants were 26 advanced school psychology graduate students drawn from three university settings. The consultants engaged in different models of consultation, including mental health, behavioral, and an eclectic combination of these and other models. They consulted on cases that were "school-based in nature" (p. 623). Consultees were 26 professional educators with backgrounds in regular education (n=20), special education (n=4), and counseling (n=2). The initial interview between the consultee and consultant was audio-taped and then coded using the Folger and Puck's (1975) Request-Centered Relational Coding System (see Table 4). In short, this system codes only questions, instructions or orders (i.e., bids), and responses to those bids. Bids are then categorized as dominant or submissive. Dominant bids require that some action be taken, whereas submissive bids seek permission to take an action. They may be further categorized as affiliative or hostile, depending upon the presence of polite terms and friendly intonation or rude language and unfriendly intonation respectively. In this study, an additional code for bids was developed (i.e., dominant-affiliative bids), which indicates that a question is asked in such a way that the answer is already supplied (e.g., "You think his major difficulty is his inattention, right?"). Responses to bids are coded as accepted, rejected or evaded. The Consultation Evaluation From (CEF) was the outcome measure employed.

Three major analyses were reported: descriptive statistics, correlational analyses, and post-hoc analyses. The descriptive statistics indicated that consultants' dominant bids outnumbered consultees' dominant bids by 78:1, dominant-affiliative bids by 15:1, and submissive bids by 3:1 (Erchul et al., 1995). The correlational analyses involved a comparison of consultee and

consultant bids to overall CEF scores. None of these analyses was significant; hence, no support was obtained for the researchers' hypothesis that more favorable outcomes would be obtained when the consultee followed the lead of the consultant by not asking questions or making requests of the consultant. Finally, the correlational analyses were repeated on a subsample of consultants (n=14) who reported exclusive use of behavioral procedures. Two significant and somewhat surprising results were obtained. First, the percentage of consultant pure dominant bids correlated negatively with CEF scores. Hence, consultants who used direct commands or instructions (e.g., "Tell me what Johnny was doing in the classroom.") were rated less favorably by consultees. Second, the percentage of consultant dominant-affiliative bids was positively related to CEF scores. Thus, consultants who tended to ask questions in such a way that the answer is already supplied (e.g., "You think that the major problem is his distractibility, right?") were rated as more effective by consultees. These findings suggest that behavioral consultants might be perceived more favorably if they restricted their use of direct questions in favor of more polite and solicitous queries.

The relationship between consultant verbal control and consultee perceptions of consultation was examined by Houk and Lewandowski (1996). In this experimental study, one hundred teachers from rural and urban school districts in New York were randomly assigned to watch one of two video-taped vignettes, wherein a problem identification interview between a consultant and consultee was presented. One video-tape presented the condition of high verbal control on the part of the consultant; the other involved the condition of low verbal control on the part of the consultant (Houk & Lewandowski, 1996).

Two indices of verbal control, consultant domineeringness and floor holding, were utilized. Consultant domineeringness has been defined by Rogers and Farce (1975) as the number of one-up messages (i.e., attempts to control the conversation) spoken by the consultant, divided by the total number of consultant messages (see Table 3). Floor holding was defined as the number of one-sentence utterances spoken by the consultant divided by the total number of one-sentence utterances spoken by the consultation dyad (Houk & Lewandowski, 1996). The investigators defined high verbal control as a consultant domineeringness ratio of 39% and a floor holding ratio of 60%. Alternatively, low verbal control was defined as a domineeringness ratio of 10% or less and a floor-holding ratio of 60% or less (Houk & Lewandowski, 1996).

After viewing the vignettes, the teachers completed the Perceptions of Consultation Questionnaire (PCQ), the thought listing form, and a commitment to consultation form. The PCQ is a 35-item, Likert scale assessing consultees' perceptions of the consultative interaction (e.g., characteristics of the consultant, problem identification, consultative dialogue and consultation in general). The thought listing form is an open-ended questionnaire, directing teachers to list any thoughts or impressions they had while viewing the video tape. Finally, on the commitment to future consultation form, teachers indicated whether they wanted to schedule an actual meeting with a consultant similar to the one they observed in the video (Houk & Lewandowski, 1996).

The data analyses indicated that the independent variable verbal control produced no significant effect on teachers' global perceptions of consultation, as measured by ratings on the PCQ (Houk & Lewandowski, 1996). That is, consultees tended to accept consultants using high verbal control as

easily as they accepted consultants using low verbal control, at least in the initial, problem-identification interview. These results suggest that consultees may experience a positive attitude toward anyone offering to help with a problem in the classroom. Similarly, the distribution of scores on the commitment to future consultation measure did not differ significantly when comparing subjects from the high and low verbal control conditions. Thus, verbal control did not affect teachers willingness to pursue "real" consultation in the future. Data from the thought listing measure also failed to find significant differences between the two groups when positive and negative evaluation statements were compared. Finally, four subcategories of the PCQ were analyzed post hoc to determine if there were group differences between the high and low control conditions. The four categories of the PCQ included the consultant characteristics, discussion characteristics, problem characteristics, and consultation in general. A one-way ANOVA indicated that there was a significant effect for verbal control when comparing group means from the problem category. This finding showed that teachers believed they learned more about the problem when the consultant controlled the conversation (Houk & Lewandowski, 1996).

In a related study, Hughes, Erchul, Yoon, Jackson, and Henington (1996) examined the relationship between consultant use of questions and consultee evaluation of consultation effectiveness. Forty-one advanced school psychology graduate students served as consultants; consultees were experienced regular education teachers, most of whom taught elementary school students. The consultants were trained according to the model of expanded behavioral consultation (Hughes & DeForest, 1993) and met with their consultees for at least two sessions. However, only the first interview was audio-taped and subsequently coded.

Each transcript was first coded into consultant thought units, where only consultant questions and consultee responses to those questions were analyzed. Questions were then coded on three dimensions: format, process, and response (Hughes et al., 1996). Format refers to whether the question was open or closed. Process refers to the function of the question and was coded according to the Consultation Analysis Record (CAR) with one slight modification: the process codes were collapsed into evaluation, inference, specification, summarization, and validation categories. Hence, positive and negative ratings were not given to evaluation and validation statements. Response codes were adapted from Foldger and Puck's (1976) system. As such, consultee responses to consultant questions were coded as either accepted, rejected, or evaded. The Consultant Evaluation Form (CEF), which was completed by consultees at the end of consultation, was the outcome measure employed.

The data were analyzed in two ways. First, correlational analyses were run with questions converted into percentages of thought units. These analyses found no significant associations between the three types of questions reported as percentages and consultee evaluations of consultation (Hughes et al., 1996). Next, the questions were converted into frequencies of thought units. Significant, positive associations were found between consultee evaluations and two variables, consultee acceptance of consultant questions and consultant's use of inference questions. Thus, consultants who occasionally ask consultees such questions during the initial interview as "What do you think?" cause consultees to view consultation more positively. In addition, consultees who easily share their opinions encourage consultants to ask even more questions, which, in turn, causes consultees to view the consultative experience more favorably. With respect to the discrepancy

between the percentages and frequencies data, the researchers remarked that it is difficult to reconcile the differences between the two data sets. They also cautioned not to interpret the results as indicating that consultant processes, such as use of questions, are unrelated to consultation success, though they were unrelated when percentages data were utilized. Instead, they argued more sensitive statistical and methodological procedures need to be developed in order to assess accurately the influence that skillful questioning has on consultation efficacy.

Gutkin (1996) analyzed consultant and consultee communication behaviors in order to ascertain patterns of leadership and initial interview effectiveness in school-based consultation. Forty consultation dyads were utilized. Half of the consultants were enrolled in school psychology graduate programs and the remaining consultants were working on degrees in related areas, such as counseling, special education, or social work. The consultees were "field-based professionals" who worked in education and/or psychological services (p. 201). Each of the consultants conducted a 20-30 minute behavioral interview concerning a real professional problem that the consultee was currently experiencing.

The transcripts were coded according to Bergan's (1977) Consultation Analysis Record (CAR) procedures (see Table 1). However, Gutkin did make one modification to the CAR coding system by adding a "process overt" category to the content code. This category was used to identify verbalizations "that addressed the problem solving process itself, rather than the specifics of a presenting problem" (p. 202). Thus, statements such as, "Before we begin to discuss possible solutions to the problem, I would like to discuss the specifics of the presenting problem," were coded as process overt (Gutkin, 1996).

In addition, measures of Content and Process Leadership were developed. Content Leadership reflected whether consultants and consultees followed each other's lead in terms of what was discussed during consultation. These statements were further coded as accepting or rejecting. For instance, a consultant was considered to be accepting of the content lead of the consultee when the former discussed the same broad area of information as was last addressed by the latter (Gutkin, 1996). Conversely, when a consultant changed the direction of the conversation by shifting to a new topic, he or she was considered to be rejecting the content lead of the consultee. Similarly, Process Leadership was defined as the extent to which consultees and consultants followed each other's lead in terms of how issues were discussed during the interview (Gutkin, 1996). This measure also indicated whether the consultee or consultant accepted or rejected the process leadership of his or her partner.

Finally, the CAR Indices of Interview Effectiveness were calculated to provide an objective measure of the degree to which appropriate communication behaviors, as outlined by Bergan and Kratochwill (1990), were employed by the consultants in the study. Four indices were derived. The Index of Content Relevance (ICR) reflects the degree to which the consultant addressed the content domains of primary importance to the initial interview (i.e., behavior, behavior setting, and observation). The Index of Process Effectiveness (IPE) indicates the consultant's skill in articulating specification, summarization, and validation statements in a balanced and even manner. The Index of Interview Control (IIC) assesses the extent to which the consultant directed the consultee through the problem-solving process through the use of elicitors. Lastly, the Index of Content Focus (ICF) measures the degree to which consultants were able to maintain a high degree of focus during the interview by not shifting frequently from one topic to another.

The results were reported in six categories. First, an analysis of the source codes indicated that consultees spoke significantly more often than consultants, emitting almost two-thirds of the verbalizations during the interview. Second, the data from the control codes showed that consultants uttered a significantly higher percentage of elicitors (38%) than consultees (3%). In contrast, consultees verbalized a higher percentage of emitters (97%) than consultants (62%). Also, the percentage of verbalizations that were emitters rather than elicitors was significantly higher for both consultants and consultees. Third, a MANOVA was conducted to determine the degree to which the consultants and consultees differed in their use of content. This analysis was significant, and post hoc analyses indicated that consultants utilized "process overt" content statements significantly more than consultees. Fourth, a MANOVA was, again, employed to examine if there were differences in the pattern of process code usage for consultants and consultees. A significant finding was obtained, indicating that consultants utilized significantly more "summarization" statements than consultees.

The consultant and consultee content and process leadership codes were subsequently analyzed, revealing an unexpected pattern of similarities between the consultants and the consultees. With respect to the content leadership codes, consultant leads were accepted by consultees significantly more often than the consultee leads that were accepted by consultants (Gutkin, 1996). Similarly, consultant leads were rejected significantly less often by consultees than the consultee leads that were rejected by the consultants. However, both consultees and consultants were significantly more likely to accept than reject their partners' content leads. Taken together, these findings indicate that although each partner was more likely to accept then reject the other's content leads, consultees were much more likely to follow or

accept the topic of conversation initiated by consultants than consultants were of consultees. Analyses of the process leadership codes indicated that there were no significant differences between the rates at which consultant and consultee leads were either accepted or rejected. Both consultees and consultants were significantly more likely to reject than accept each other's process leads (Gutkin, 1996).

The final analysis examined the relationship of the CAR Content and Process Leadership measures with the Indices of Interview Effectiveness. Specifically, correlational analyses between each of the four indices and the percentage of consultant and consultee leads that were accepted or rejected by the consultation partners were analyzed. Analyses of the content codes showed that there were "significant and highly similar positive relationships between the Index of Content Focus and the percentage of accepted consultant and consultee leads (.42 vs. .44)," as well as "negative relationships between the Index of Content Focus and percentage of rejected consultant and consultee leads (-.42 vs. -.46)" (p.210). These findings suggest that both consultant and consultee content leadership behavior appeared to be beneficial and related to a high quality problem identification interview (Gutkin, 1996).

The analysis of the process codes showed that there was a significant, positive correlation between the Index of Content Focus and the percentage of accepted consultant leads, as well as a significant, negative correlation between the effectiveness index and the percentage of rejected consultant leads (.44 vs. -.43). In addition, the data yielded a significant, negative correlation between the Index of Process Effectiveness and the percentage of accepted consultee leads, and a highly similar but positive, significant correlation between the effectiveness index and the percentage of rejected consultee leads (-.69 vs. .68) (Gutkin, 1996). These data suggest that consultant

process leadership was positively related to initial interview quality, whereas consultee process leadership was negatively related to this variable (Gutkin, 1996). Taken collectively, this final set of analyses indicate that both consultants and consultees should contribute equally to the content being discussed during consultation. However, it seems that only the consultant should bear the primary responsibility for maintaining and directing the problem-solving process, since it is the consultant who is trained in working through the process of solving the learning and behavioral problems of children (Gutkin, 1996).

Wickstrom, Jones, LaFleur, and Witt (1998) examined how the verbal interaction style of consultants (i.e., collaborative versus prescriptive) impacted upon treatment implementation in school-based behavioral consultation. Consultants were three master's level students who had completed a course and one year of practical experience in school consultation. Consultees were 27 elementary school teachers from five public schools.

Collaborative consultation sessions were operationalized as those where the teacher was asked for input (e.g., "What is your opinion ...") during the problem identification interview and problem analysis interview. Teacher input regarding a preference for one of five behavioral treatment plans (e.g., Conduct Countdown, Daily Behavior Chart) was specifically requested during the latter interview. In addition, consultants in this condition were directed to provide at least five supportive statements (e.g., "Yes, that must be frustrating") during each interview. In contrast, consultants assigned to the prescriptive condition did not ask for teacher input and they offered no more than five supportive statements during each interview. Regarding the choice

of treatment plan, consultants in this condition recommended one of the five treatment plans given the child's presenting problem.

Data analyses indicated no significant difference between the collaborative and prescriptive conditions in relation to treatment implementation. However, it is important to point out that consultees in the collaborative condition were restricted in their choice of interventions. As a result, it is unclear whether the collaborative condition was sufficiently collaborative. Analyses also indicated that treatment implementation was very low, ranging from 0% to 21% for the entire sample, with a mean of only 4%. This finding suggests that neither the collaborative nor the prescriptive conditions were effective in motivating teachers to implement the treatment plans. Indeed, it is hard to draw conclusions about the relative efficacy of either approach when both were so ineffective.

Graham (1998) examined teachers' perceptions of consultation efficacy after viewing video-taped vignettes of either expert or collaboration consultation sessions. For the purposes of this study, an expert session was one in which consultants gave specific advice and specific intervention strategies to consultees. In contrast, a collaborative session was one in which consultants initiated a collaborative problem-solving process (Graham, 1998). In addition to the expert or collaborative dichotomy, some participants viewed the above approaches in response to a calm teacher with a clear request for consultation services, whereas others viewed the approaches in response to an overwhelmed teacher with a vague request for service. One hundred and forty teachers participated in the study. At the end of the videotape, teachers completed the Consultation Evaluation Form (CEF).

Data analyses showed a significant interaction between consultation approach and the nature of consultee requests for services. Specifically, a

better fit was noted between a collaborative approach in response to a vague request and an expert approach in response to a clear request (Graham, 1998). These results suggest that a collaborative approach may not always be the preferred approach. Indeed, consultees may prefer an expert approach when they are able to articulate a specific problem and a clear need for services.

In an extension of his earlier work (Erchul, 1987), Erchul, Sheridan, Ryan, Grissom, Killough, and Mettler (1999) employed an expanded version of the Rogers and Farace (1975) coding system (see Table 3) to examine the communicational patterns of consultation partners within the context of conjoint behavioral consultation ("CBC"). CBC was defined as an extension of behavioral consultation's ("BC") problem-solving techniques (Bergan & Kratochwill, 1990) to home-school partnerships (Erchul et al., 1999). The participants in this study were four female doctoral students and four parent/teacher dyads who served as consultants and consultees respectively.

Consistent with the Rogers and Farace (1975) system, messages are initially assigned one of three control codes (i.e., one-up, one-down, or one-across) indicating the unidirectional flow of communication for an individual speaker. A one-up rating denotes an attempt to control the relationship. A one-down rating indicates an acceptance of or a request for the other person to control the relationship. Alternatively, a one-across message is considered to have no implications for relational control. Messages are then further classified according to their domineeringness (i.e., index of bids for control) and dominance (i.e., index of bids for control that were accepted) characteristics.

Data analyses indicated that rates of one-up messages were relatively similar and quite low (around 20%) for both consultants and consultees. Further, the majority of consultant statements were one-down (64%), whereas

the majority of teacher and parent statements were one-across (65% and 63% respectively). Interestingly, only small differences in domineeringness and dominance scores between consultants and consultees were reported, though consultants were slightly higher on the former and consultees were somewhat higher on the latter. Taken together, these findings indicate that while consultants made more attempts to structure the CBC interactions (as shown by their higher domineeringness scores), teachers and parents were more influential in terms of their ability to contribute meaningfully to the discussion (as shown by their higher dominance scores). However, no individual appeared to be attempting to direct or influence others at disproportionate levels (as shown by the low percentage of one-up messages for all participants). Erchul and colleagues compared these findings to those of Erchul (1987). It was noted that the CBC consultant is equally domineering but less influential than the consultant engaged in teacher-only BC (Erchul et al., 1999), since CBC consultants appeared to share influence to a greater degree than BC consultants.

Finally, Erchul, Raven, and Amanda (2001) examined school psychologists' perceptions of social power (i.e., the ability to influence the attitudes, beliefs, and behaviors of others) in school-based consultation. The investigators specifically examined whether psychologists would view "soft" power bases as more efficacious than "harsh" power bases when attempting to influence teachers who are initially reluctant to comply with psychologists' requests. For the purposes of this study, soft social power was defined as "more subtle, positive, and noncoercive," whereas harsh social power was defined as "more overt, punitive, and heavy-handed" (p. 6).

Participants were 101 regular members of a state school psychology association. Of these, 71% indicated having previous experience as a school

consultant. All participants were asked to fill out the Interpersonal Power Inventory (IPI; Raven et al., 1998), which taps 11 different forms of social power attributions, such as Personal Coercion and Positive Expert. For example, a Personal Coercion attribution is "It would be disturbing for the teacher to know that I disapprove of him/her." In contrast, a Positive Expert attribution is "He/she trusts me to give him/her the best direction." The rating scale extends from 1 (much more likely to comply) to 7 (much less likely to comply). The 11 attributions were then analyzed to determine on which factor structure they loaded (i.e., soft or hard power base).

The results indicated that psychologists see soft bases as more successful than harsh bases when attempting to influence teachers who are initially reluctant to comply with requests. Erchul and colleagues (2001) concluded that the social power can be categorized in many ways and that not all power bases are "coercive or heavy handed." They urged psychologists to consider the utility of soft and noncoercive influence strategies in their consultations with teachers.

In summary, the phase-three studies appear to be quite supportive of the need for a collaborative orientation in school consultation. These studies found that consultees find consultation to be beneficial when both parties work together as a team and share similar perceptions of the consultation process (Erchul et al., 1992), consultants moderate their use of questions in general and of closed and purely dominant questions in particular (Hughes & DeForest, 1993; Erchul et al., 1995), and consultants adjust their approach to the individual characteristics and needs of the consultee (Hughes & DeForest, 1993). Furthermore, consultation interviews were noted to be more focused and more effective when consultees were encouraged to contribute to the conversation (Gutkin, 1996). These studies also showed, however, that there

were instances during which a more directive stance was indicated. These instances included consultees who were able to clearly articulate the nature of a child's difficulties and the need for consultative services (Graham, 1998) as well as situations in which the psychologist was operating from more of a traditional behavioral perspective (Erchul et al., 1995). Moreover, the results showed that consultees seemed to be better served by psychologists who took responsibility for directing the consultative problem-solving process (e.g., Consultant: "Why don't we start with you telling me what is happening in the classroom that concerns you.") (Gutkin, 1996). Indeed, as Gutkin (1999b) noted, consultants need not choose between being directive or collaborative. They can address both goals simultaneously and, in doing so, incorporate both collaborative and directive elements of professional functioning into their consultative relationships.

Gutkin's (1999b) reconceptualization of school consultation appears to have facilitated a rapprochement of two prominent scholars (Erchul, 1999, 2001; Gutkin, 1996, 1999a, 1999b) who were on opposing sides of the consultation debate. Indeed, it appears that those who advocated a more directive approach (Erchul, 1987, 1999) as well as those who favored a more collaborative stance (Gutkin, 1996, 1999a, 1999b) now recognize that an "either/or" mindset may be overly simplistic. These two scholars have called for more refined and expanded empirical models to further the understanding and improve the practice of school consultation. In addition, a request for a more precise, operational definition of the construct "collaboration" has been made (Erchul, 1999), so that a final resolution of the collaboration debate can be achieved.

Summary

Taken collectively, the findings on the school consultation literature presented in this section are equivocal, especially when the results from the three phases are considered. Careful attention to the methodology employed in the literature may help to explain some of the inconsistent findings. First, it is important to note that four different coding systems were used to characterize consultant and consultee verbal behaviors. Indeed, as Martens, Erchul, and Witt (1992) have observed, although these coding systems are legitimate tools for analyzing communication behavior during consultation, they are not equally sensitive to the same behavioral processes. Thus, they tend to produce moderately different results when applied to the same data. For instance, while two different coding systems may generate similar descriptions of interpersonal behaviors, they may do so at differing levels of specificity (Martens, Erchul & Witt, 1992). Second, as noted by Hughes and her colleagues (1996), the statistics and coding systems employed to analyze the data may oversimplify important interpersonal processes, making it difficult for researchers to capture the critical interpersonal variables that contribute significantly to effective consultation.

It is also important to recognize that while the majority of consultants in the above studies adopted a "behavioral" approach to consultation, this approach varied in its application. Recall that Bergan and Tombari (1976) trained their behavioral consultants to adopt a structured and directive orientation when meeting with consultees, whereas others encouraged their behavioral consultants to respond to consultees in a supportive and empathetic manner while using behavioral problem solving procedures (Hughes & DeForest, 1993). These differences in approach may have made it difficult for some researchers to replicate the findings of others.

Finally, the research in this area has several limitations that have not been addressed elsewhere. First, the extant literature almost always indicated that teachers desired to pursue consultation because they were having difficulty managing the academic and/or behavioral difficulties of children in their classes. However, the studies never elaborated on the specific nature of the problems, nor did they describe in sufficient detail the manner in which the problems were assessed and remediated. In other words, the studies focused almost exclusively on process variables (i.e., who is running/directing the interview) and mostly ignored variables relating to content (i.e., what the teacher and psychologist said during the meeting) and context (i.e., why the teacher requested consultative services). Second, the communication patterns that would typically accompany a discussion concerning assessment and remediation were never explored, despite the recognition that the psychoeducational assessment of children is occasionally a necessary step in the consultative problem-solving process (Gutkin & Curtis, 1999; Johnston, 1990). The purpose of the present study is to examine the communication patterns that occur within a specific context of school consultation. The context of interest concerns a teacher and a psychologist who meet to review the psychoeducational assessment results of a child referred for academic underachievement.

The next section presents the empirical findings from the field of counseling psychology, and addresses specifically the issue of client engagement in counseling. Valuable information can be gleaned from this literature base, since engagement researchers have generally focused on the communication patterns and specific statements (i.e., content variables) of therapists that contribute to effective psychotherapy. The review begins with a brief overview of the research in the field of counseling psychology.

Counseling Psychology: Engagement in the Therapeutic Process

Within the field of counseling psychology, there has been great interest in discovering the factors that contribute to successful and high quality initiatory counseling sessions. Researchers in this area have focused on both counselor and client characteristics, as well as identifying the salient communication and relational patterns that contribute to client engagement in the therapeutic process. Tryon (1985) defined client "engagement" in counseling as an occurrence in which the client returns for at least one session after intake with the same counselor who conducted the intake interview -- a procedure which is the normal course of practice in most counseling centers unless the client requests otherwise. Indeed, despite the obvious differences in relation to context and purpose for seeking professional assistance, there are many parallels that can be drawn between the fields of counseling psychology and school-based consultation, especially in terms of the factors that contribute to successful practice. The most notable similarity is the counselor-client therapeutic relationship, which is arguably very much analogous to the psychologist-teacher consultative relationship. Thus, it is reasonable to assume that the findings from the engagement literature may be applicable to the practice and science of school consultation. The purpose of this section is to review the relevant findings pertaining to client engagement in counseling. In addition, the areas of similarity and dissimilarity in relation to client engagement in the therapeutic process and teacher "engagement" in school-based consultation will be discussed.

Review of Engagement Literature

Client and counselor characteristics that relate to engagement in counseling were examined by Tryon (1986). In this study, which was conducted at a university counseling center, clients and counselors were

instructed to rate each other on a number of variables after the intake interview. Clients rated counselors' interest, helpfulness, competence, warmth and genuiness as well as client pleasure with the initial session (Tryon, 1986). In addition, clients rated counselors' ability to identify concerns for which the client did not actually seek counseling. Alternatively, counselors rated clients' verbalness, intelligence, capacity for insight, and likeability, as well the severity of clients' problems/concerns and counselors' interest in seeing a particular client.

Initial data analyses indicated that 36% of clients returned for more than one session, thereby meeting the criteria for engagement. Additional regression analyses indicated that a three-item cluster (i.e., counselor rating of severity of client problems/concerns, client rating of counselor identification of client concerns, and counselor rating of interest in seeing the client) was positively related to client engagement (Tryon, 1986). However, subsequent analyses showed that the client rating of counselor identification of client concerns formed an independent factor from the other two counselor characteristics. This factor was observed to be most related to client engagement.

Tryon and Tryon (1986) explored the factors associated with clinical practicum trainees' engagement of clients at a university counseling center. Factors that were examined included the trainees' graduate school admissions information and their graduate classroom achievements. In addition, the investigators collected data pertaining to the trainees' engagement of clients for one, two-to-ten, and more than ten sessions.

The first analysis examined the relationship between the number of sessions attended by clients and the trainees' engagement quotient ("EQ"), which was defined as the percentage of clients who returned to the therapist

for more than one session (Tryon, 1985). The results indicated that EQ was positively related to the number of clients seen for more than 10 sessions. Further, EQ had a negative association with the number of clients seen for only one session and no relation with the number of clients seen for 2-10 sessions. These findings suggest that trainees with high EQs see fewer clients for longer periods of time than trainees with low EQs, who see many clients for shorter periods of time (Tryon & Tryon, 1986).

The second analysis examined the relationship between EQ and trainees' graduate school admissions information and graduate school grades. The following information was collected: EQ, age, Graduate Record Examination Verbal (GREV) score, Graduate Record Examination Quantitative (GREQ) score, and the Miller Analogies Test (MAT) score as well as the course grades for clinical diagnosis (CLDI) and advanced clinical diagnosis (ADCLDI). An additional variable was created by subtracting the GREQ from the GREV score, which assessed the degree to which verbal aptitude was higher than quantitative ability. The results indicated that EQ was significantly and positively related to GREV, GREV-GREQ, MAT, and age. EQ was also significantly and positively related to the students' grades in the two clinical courses. Finally, GREV and GREV-GREQ were significantly and positively related to clinical diagnostic course grades. The researchers concluded that mature trainees with strong verbal skills were better able to recognize pathology in clients (due to strong comprehension skills), define the problem to clients, and convey the need for additional sessions to clients (Tryon & Tryon, 1986). Further, such trainees may have allowed the client to feel truly understood, perhaps for the first time, and this increased the likelihood that the client would return for subsequent sessions.

Tryon (1989a) examined the degree to which practicum trainees and experienced clinicians differed on a variety of variables related to engagement, such therapist understanding and session length. The study was conducted at a university-based counseling center and included four practicum trainees (2 men and 2 women) and four Ph.D. psychologists (2 men and 2 women). For the purposes of this study, clients who returned to the center for additional sessions after the intake interview were asked to complete a questionnaire. Therapists were also asked to compete a questionnaire after the initial interview. The client questionnaire inquired about therapist understanding, therapist preparation, and therapist education of the client about himself or herself. The therapist version was identical in format to the client version, except in the former the wording was changed to reflect the therapist's own behavior (e.g., "How understanding of the client were you?"). In addition, the duration of the initial interview was recorded by the center's secretary.

The results indicated a significant difference between the rate of engagement for professional (52%) and practicum (39%) therapists as well as for professional women (over 60%) as compared to all other therapists (i.e., professional men and trainees regardless of gender) (below 50%). Engagement interviews were also found to be significantly longer (51.93 minutes) than nonengagement interviews (39.35 minutes). Additionally, professional women were rated by clients as significantly more understanding than other therapists. Finally, with respect to the teaching variable, women were viewed by clients as teaching more than men, though women therapists viewed themselves as teaching far less than men. Also, therapists rated themselves as teaching significantly more to the clients they engaged than the clients they did not engage (Tryon, 1989a). Tryon concluded that, during

the initial interview, teaching in a gentle and compassionate manner is strongly related to engagement, as is the time spent on conveying this information to the client.

The variables associated with engagement and premature termination in a university counseling center were studied by Tryon (1989b). Specifically, differences were examined between engaged and nonengaged clients and between "post-engaged premature terminators" and clients who terminated with the therapists' knowledge. For the purposes of this study, clients who had more than one session with a counselor were counted as engaged, whereas clients who did not return for a second session were considered nonengaged. Alternatively, clients who attended more than 2 sessions, but then canceled later appointments or did not attend subsequent appointments were counted as prematurely terminated. Clients who terminated with the knowledge of the counselor were considered mutually terminated (Tryon, 1989b).

Five practicum trainees, 4 professional counselors, and 308 college student clients participated in this investigation. After the initial interview, counselors completed the Counseling Service Questionnaire-Counselor Version (CSQ-CO; Tryon, 1989a), which assessed the counselor's understanding of the client, counselor preparation to provide service to the client, and counselor teaching of the client. Clients completed the Counselor Rating Form-Short Version (CRS-S; Corrigan & Schmidt, 1983), which measured counselor attractiveness, expertness, and trustworthiness. The duration of the initial interview was recorded by the center's secretary.

The results indicated that professionals engaged significantly more clients (64%) than trainees (42%) and had significantly lower rates of premature termination (34%) than trainees (52%). The results also indicated that counselors were significantly more understanding of and instructive

with engaged versus nonengaged clients, underscoring the importance of compassion and educating the client about herself during the initial interview. Additionally, engagement interviews lasted longer than nonengagement interviews, which was consistent with prior findings (Tryon, 1989a). Finally and rather interestingly, premature termination was associated with counselor expertness, trustworthiness, and attractiveness, though the direction of this association was dependent upon counselor experience. Specifically, premature terminating clients of trainees rated counselors as significantly lower on these variables than clients who terminated with mutual knowledge. Conversely, premature terminating clients of professionals rated counselors as significantly higher on these variables than clients who terminated with mutual knowledge (Tryon, 1989b). Tryon concluded that trainees may have not had sufficient influence to keep clients in counseling, whereas professionals may have been "unable to live up to their post-intake ratings" or may have sufficiently helped clients so that they no longer perceived a need for counseling (Tryon, 1989b, p. 427).

Session depth and smoothness in relation to engagement of college students in a university-based counseling center were examined by Tryon (1990). In this study, Tryon had clients and counselors fill out questionnaires after the intake interview. Counselors were practicum trainees and professional counselors. Three questionnaires were employed in this study: (1) The Session Evaluation Questionnaire (SEQ; Stiles, 1980), which was completed by counselors and clients, assessed session depth (i.e., deep-shallow, full-empty, powerful-weak, valuable-worthless, and special-ordinary) and smoothness (i.e., comfortable-uncomfortable, smoothness, easy-difficult, pleasant-unpleasant, and relaxed-tense; (2) The Client Satisfaction Questionnaire (CSQ; Larsen, Attkisson, Hargreaves, & Nguyen (1979), which

was completed by clients, measured client satisfaction with mental health services; and (3) The Pre-Counseling Assessment Blank, which was completed by counselors, taped degree of client disturbance and motivation as well as the extent to which the counselor felt he or she would enjoy working with the client. The duration of the intake interview was also included as a measure of engagement.

The results indicated a trend toward significance in which professionals engaged clients at a higher rate (62%) than trainees (49.5%). Counselor and client measures of session depth, client ratings of the degree of satisfaction with the session, and counselor ratings of client disturbance and motivation were significantly and positively related to client engagement in counseling. In addition, session length was positively and significantly associated with client engagement. In short, more distressed and motivated clients may involve their counselors in a therapeutic process that is deeper, more instructive, and more meaningful; hence, they may leave the initial session feeling more satisfied with the process and return for subsequent sessions (Tryon, 1990).

The relationship of client attractiveness and client engagement in counseling was studied by Tryon (1992). Attractive clients were defined as more likable, warmer, and better motivated, as were those who were in agreement with the counselor about the presenting concerns and desired course of action. Counselors were practicum trainees and professional counselors; clients were university students. After the intake interview, counselors completed the Therapist Personal Reaction Questionnaire (TPRQ; Ashby, Ford, Guerney, Guerney, & Snyder, 1957), which measured counselor perceptions of client attractiveness. Therapists also rated the severity of the client's problems and the degree of anxiety displayed by the client when

talking about problems. In addition, the duration of the intake interview was recorded.

The results of an initial analysis indicated that 84% of clients returned for their second scheduled appointment and that rates of disturbance and anxiety did not differentiate returning from non-returning clients. However, clients who returned for a second appointment had higher attractiveness ratings and longer intake interviews than clients who did not return. The results of a second analysis showed that higher-engaging therapists had a significantly greater number of less-attractive clients return for another session, whereas lower-engaging therapists had significantly fewer of these clients return. Specifically, higher-engaging therapists had 97% of more attractive clients return for an additional session and 90% of less attractive clients return for a subsequent session. In contrast, lower-engaging therapists had 85% of more attractive clients return for a second appointment and 71% of lower engaging clients return for a second session. Tryon (1992) concluded that high-engaging therapists and attractive clients may have a "facilitative effect on therapeutic involvement which compensates to a degree for involvement deficiencies in their respective therapeutic partners" (p. 313).

Counseling dropout in relation to client attractiveness, disturbance, and expected number of sessions was also examined by Tryon (1999). The data were collected in a university-based counseling center. Participants were five Ph.D. counselors, one counselor with extensive counseling experience, and seven practicum trainees as well as 257 college students (i.e., clients). After the intake interview, counselors and clients were asked to complete questionnaires. Counselors completed the Counselor Reaction Form (CRF; Howell & Highlen, 1981), which assessed client disturbance and attractiveness.

Clients completed a form which asked whether they would return to their therapist for additional sessions. Clients were also asked to indicate how many sessions they would attend if they were to return or to indicate via a checklist the reasons why they would not seek additional help (e.g., service met my needs, dissatisfied with counselor, only intended to come for one session). At the end of the academic year, appointment cards were examined to determine which clients returned for additional sessions.

Several broad analyses were conducted. First, the results showed that 79% of clients indicated a desire to return for an additional session but only 57% kept a second appointment. Further, the clients who returned for a second session were rated as more disturbed but also more likable, attractive, and motivated than the clients who did not return. The two most frequently cited reasons for not wanting a second appointment were that the counseling needs had been met in one session and that the client's intention was to come for only one session, indicating that clients who did not desire a second appointment were generally satisfied with the assistance provided during the intake interview.

Second, it was reported that 43% of clients terminated prematurely (i.e., they attended a second appointment but failed to attend subsequent appointments). Further, the clients who terminated prematurely had fewer sessions than the clients who terminated with the mutual agreement of their counselors. They were also rated as more disturbed than clients who terminated with mutual agreement. These findings suggest that more disturbed clients generally need more help, but do not keep appointments. Consequently, it may be up to the therapist to encourage more disturbed clients to continue in counseling beyond the initial session (Tryon, 1999).

Finally, analyses regarding the number of sessions needed were presented. Both client and counselor estimates of the number of sessions needed were significantly and positively related to the actual number of sessions attended, though clients' estimates were more predictive of the number of sessions attended than counselors.' Clients also predicted fewer sessions needed than counselors. Further, when clients and counselors agreed on the number of sessions needed, clients terminated mutually, but when the dyad did not agree on the number of sessions needed, termination was premature. Tryon (1992) concluded that it might be best for clients and counselors to discuss their expectations for treatment length routinely, as this would help to clarify the processes and goals for both parties.

More recently, Tryon (2003) examined the relationship between therapist verbalizations and client engagement in counseling. Specifically, Tryon audio-taped and then subsequently transcribed and coded the counseling sessions of 1 doctoral-level therapist and 11 university students who sought help for personal concerns at a short-term, university-based counseling center. Therapist verbalizations were coded according to the Hill Therapist Verbal Response Category System (HCVRCS; Hill, 1993), which organizes verbalizations into one of twelve categories: minimal encourager, silence, approval, information, direct guidance, closed question, open question, paraphrase, interpretation, confrontation, self-disclosure, and other. In addition, data regarding whether the client returned for a subsequent session after intake was recorded by the counseling center secretary.

The analyses indicated that 7 of the 11 clients returned for an additional session after intake. In addition, the data showed that engagement interviews were comprised of 40% information (i.e., facts, data, or resources), 29% closed questions (i.e., request for a one- or two-word answer), and 14% minimal

encouragers (e.g., "Go on," "MmHmm," "I see," "okay"). In contrast, nonengagement interviews were comprised of 27% information, 25% closed questions, and 21% minimal encouragers. For all eleven interviews, closed questions, minimal encouragers, and information comprised the majority of therapist verbalizations (80.5%).

Subsequent analyses indicated a significant interaction for engagement status by third of interview interactions for therapist use of closed questions and information. Specifically, in engagement interviews, the number of closed questions decreased during the course of the interview, whereas the number of information statements increased across the interviews. In contrast, during nonengagement interviews, therapist use of closed questions increased from the first to the second third of the interview and then fell during the final third of the interview. Also, information verbalizations fell from the first to second third of the interviews and then increased in the final third of the interviews. Tryon concluded that, in engagement sessions, the pattern of therapist questions and information suggests that once problems had been made clear and were understood by the therapist, the therapist then provided information to the client or educated the client about them (Tryon, 2003). This pattern of therapist verbalizations seemed to facilitate client engagement in the therapeutic process.

Summary

In summary, this section presented the research from counseling psychology which examined the counselor communicational patterns and counselor/client characteristics that are related to client engagement in counseling. It is noteworthy that all the studies were conducted at a university-based counseling center. Thus, all the client participants in the above studies were university students who sought professional assistance for

personal problems from counselors who were either professional therapists employed by the university or practicum trainees who were doctoral-level psychology students at the university.

The engagement literature will be synthesized in terms of the earlier studies and the later research. The earlier studies found that engagement was positively related to counselor identification of client concerns (Tryon, 1986), counselors who possessed strong verbal and clinical diagnostic skills (Tryon & Tryon, 1986), and counselors who were perceived as more understanding and as teaching more to clients during the intake interview (Tryon, 1986, 1989a, 1989b). In addition, it was found that higher engaging counselors were typically professional therapists (Tryon, 1989a, 1989b, 1990). Taken together, these findings indicate that higher engaging therapists are typically professional counselors who use their strong verbal and diagnostic skills to better understand and define client problems as well as to teach clients about their concerns.

Later studies found that engagement interviews were longer in duration (Tryon, 1989a, 1989b, 1990, 1992) and were experienced by clients as more satisfying, meaningful, and deep (Tryon, 1990) than non-engagement interviews. In addition, clients who were rated by counselors as more "attractive" (i.e., motivated, likable, and warm) were more likely to become engaged in counseling than clients who were perceived as less attractive (Tryon, 1992, 1999). Finally, Tryon's most recent study (2003) underscores, again, the importance of clearly defining the client's presenting concerns, as well as providing information to (i.e., educating or teaching) the client about them. Taken collectively, these studies indicate that more motivated clients may involve their counselors in a therapeutic process that is deeper, more

meaningful, and more instructive; hence, the client will feel more satisfied with the process and return for additional sessions.

Similarities and Differences between Counseling Psychology and School Consultation

Despite the differences with respect to context (i.e., setting; services delivered directly through therapist vs. indirectly through teacher), purpose for seeking psychological assistance (i.e., personal vs. professional), and length of treatment/service (i.e., indefinite vs. 3-to-5 consultative problem-solving interviews), there are several commonalties in the empirical literature of counseling psychology and school consultation. One striking similarity involves the relationship between skillful problem-identification interviewing and successful engagement of the client/consultee (i.e., teacher). Specifically, an association has been found between counselors who clearly define client concerns via effective questioning and client engagement in counseling (Tryon, 2003). Likewise, skillful questioning on the part of the psychologist (i.e., consultant) has been correlated with teacher willingness to pursue consultation and to follow through with consultant recommendations (Bergan & Tombari, 1976; Erchul, 1987; Erchul & Chewning, 1990; Gutkin, 1996; Hughes et al., 1996), though the number and form of questions (i.e., open, closed, polite, direct) needed to achieve such results is debated (Erchul et al., 1992; Erchul et al., 1995; Hughes & DeForest, 1993).

The second similarity concerns the association between client/teacher engagement and psychologists who respond to client/teacher concerns in a meaningful, understanding, and empathetic manner. In this area, the counseling literature has demonstrated unequivocally that therapists who respond to client concerns in an understanding and empathetic manner are more likely to engage clients than therapists who respond with less of these

qualities (Tryon, 1989a, 1989b, 1990). School consultation researchers have reported similar results, indicating that psychologists who utilized both behavioral problem solving skills and facilitative characteristics (i.e., empathetic understanding, positive regard, supportive statements) were viewed more favorably and were associated with more positive consultation outcomes (Hughes & DeForest, 1993).

Finally, there are two important associations observed by counseling researchers that have not yet been explored by school consultation investigators. The first concerns the unambiguous relationship between education of the client and engagement in counseling (Tryon, 1986, 1989a, 1989b, 2003). The second involves the qualitative differences between expert and novice psychologists, especially the superior ability of experts, as compared to novices, to educate clients about their concerns (Tryon, 1986, 1989a, 1989b). These two findings suggest important directions for future school consultation research.

The present investigation will build on the findings from counseling psychology and will specifically examine the degree to which consultants educate or explain their assessment results to teachers. The proficiency with which psychologists link their assessment results to a child's academic difficulties and to possible classroom intervention will also be considered. Finally, the study will examine the qualitative differences between experts and novices in order to determine the extent to which expert and novice school psychologists differ in the types of statements made to teachers.

In closing this section, it is important to note that the engagement literature has not thoroughly described how best to educate clients about their concerns. That is, researchers have clearly demonstrated that education of the client is vital to client engagement, but thus far they have not examined what

to say to clients or how to present issues to clients. This issue will begin to be addressed in the next section, wherein a model of instructional explanations will be presented. The section begins with a definition of instructional explanations.

Educational Psychology and Instructional Explanations

In this section, the principal features of Leinhardt's (2001) model of instructional explanations are presented. In addition, Glaser & Chi's (1988) summary of the major findings on the nature of expert thinking is discussed, since this literature offers insight into how to apply Leinhardt's model to other disciplines, including school consultation and assessment. Also, a brief review of the relevant findings on expert thinking from the fields of counseling psychology and school psychology is given. Finally, a rationale for utilizing Leinhardt's model and the findings from the expert literature is offered, especially as it relates to the development of a protocol for working with teachers in consultation and assessment related to students with academic difficulties.

Definition of Instructional Explanations

Instructional explanations are often defined as "systematic answers to 'why' questions within a domain" (Leinhardt, 2001, p. 338). As the term implies, instructional explanations are designed to teach or convey some portion of subject matter to learners. Instructional explanations are distinct from other kinds of explanations, such as disciplinary or common. Disciplinary explanations are more formal than instructional explanations, and adhere to a precise set of rules regarding what constitutes a legitimate question and sufficient evidence for a claim or refutation of a claim. In contrast, common explanations are less formal than instructional explanations. They are part of everyday life and require no adherence to a

domain's set of specialized rules, such as those found in the disciplines of mathematics or history (Leinhardt, 2001) or, for the present study, assessment and school consultation.

Instructional explanations can be given by a textbook, computer, teacher or student. They can also be built via a coherent discourse involving an entire class and teacher working together (Leinhardt, 2001). The questions which precede the explanations can arise from real or perceived confusions, and reflect the learner's attempt to extend or make connections between concepts as well as a way of anticipating future uses for and significances of such concepts.

Leinhardt (2001) restricted her discussion of instructional explanations to the pedagogical dynamics of the classroom. Consequently, she observed that such explanations frequently occur during small or large group discussions, and particularly when the students are involved in some sort of task, such as a drill, project work, or reading circle. In addition, she noted that different subject matters prompt and support different kinds of explanations. For instance, a history teacher might emphasize the common themes (e.g., power, wealth, struggle, freedom) that cut through and across the different events and social organizations of a nation, and how important it might be for students of history to learn these thematic principles and apply them to various times and peoples. Alternatively, a mathematics teacher may describe various mathematical procedures, operations, and functions. Instructional explanations of operations may entail a "list of procedural steps and their justifications to complex systems of equivalent and parallel actions" (p. 343). Indeed, the characteristics of good explanations will vary from one discipline to another. However, there are a variety of elements that are common to good explanations. These elements are described below.

A Model of Instructional Explanations

Leinhardt (2001) proposed a generic model of instructional explanations, though she acknowledged that the principal ideas were developed and are best understood within subject-matter domains. The model is comprised of a system of goals which when achieved produce an explanation. The goals include establishing a significant question or problem, having a useful set of examples available, and completing the explanation by identifying core principles, attaching new information that is generated to prior knowledge of the same sort, identifying the conditions of use, and resolving the nature of errors.

Leinhardt (2001) noted that a central goal for an explanation is to answer an implicit or explicit question. A good explanation recapitulates the question in authentic ways -- authentic in terms of the personal experience of students' lives and in terms of its real life qualities within a domain. For instance, an explanation in mathematics can have authenticity because it refers to a real world problem and is personally important to students: "If you are planning a trip with your family, how can you plan for the cost of gasoline?" (p. 346). Finally, she noted that good questions, like good tasks, have both open and closed qualities. Good questions are open in that there are many ways of expressing it, many approaches to solving it, and multiple possible answers. Good questions are closed in that they can be answered.

Examples are also integral components of good explanations. They connect prior information with new information, can be used to prompt and resolve errors, can help to demonstrate the legality of a principle, and can be used to clarify exactly what the core question is. But as Leinhardt (2001) noted, in order to make use of and learn from examples, several are needed and they need to encapsulate a range of critical features which must be clearly

identified to students. For instance, a mathematics teacher might use several examples to help students understand the significance of a specific term: "What is an ordered pair?" In this scenario, students respond to this query and then the teacher might present several examples and ask which one is an ordered pair: "A pair of shoes? 2, 10? a, 10? 2, 2?" (p. 347). In order for learning to occur in this situation, the teacher must explain the specific nature of each pair (e.g., the first pair is a colloquial use of the term 'pair') and note whether the requisite conditions of an ordered pair have been met. In addition, she must clarify how each example is either a legal or an illegal instance of an ordered pair and, finally, discuss the broad principles of the concept. Clearly, the generation and selection of examples is a fundamental part of constructing good explanations, but it should also be clear that the selection of useful examples is no easy task. Thus, much thought and consideration must be given to this process.

Finally, it is important to be able to recognize when explanations are complete. Leinhardt (2001) stated that instructional explanations are complete when the examples, questions, principles and verbal discussion are coordinated and the interconnections are shown. She explained that beginning teachers may work through one aspect of an explanation (e.g., provide a range of examples) but may fail to incorporate other aspects which help to complete the explanation (e.g., engage students in a discussion about the principles of the concept). In addition, she noted that what completes an explanation varies depending upon the subject matter. For instance, the end-point for an explanation about mathematical solutions may be achieved by demonstrating how equivalent methods produce the same results. But the end-point for an instructional explanation in history may be more vague, since in some sense the discussion could always continue. Finally, in addition to

coordinating and identifying the interrelationships among the different components, other goals must be met in order to complete the explanation. These goals include formally connecting new ideas to prior information in ways that "flag both what is new and what has been added" (p. 350) and indicating the conditions under which the new idea, procedure, or concept is applicable. For example, attaching new ideas developed in a conversation to prior information might be achieved by illustrating the similarities and differences between them (e.g., "How was the French Revolution similar to and different from the American Revolution?"). Ultimately, explanations that are helpful make clear the core questions, use a variety of examples, and coordinate these and the other important processes described above in ways that illustrate the integral components of the concept. Moreover, good explanations seem to encourage intellectual conversations that are focused and meaningful to students, which, in turn, facilitates comprehension of key concepts at a deeper level.

The Nature of Expert Thinking

Leinhardt's (2001) model is one example of a cognitive analysis of teaching derived from an expert-novice perspective. The most prevalent method for examining expert thinking has been the analysis of verbal protocols generated by experts as they do tasks (Pressley & McCormick, 1995). Glaser and Chi (1988) summarized the seven major findings concerning the nature of expert thinking. First, experts excel mainly in their own domains, and their domain-specific expertise does not transfer far. For instance, when an expert political scientist solves a problem in political science, the analysis and solution are sophisticated. But when a chemist tries to solve the same problem, the solution is simplistic. Second, experts perceive large meaningful patterns in their domains, and they generally see patterns not discernible to

novices. For example, a chess expert sees "chunks" of information of a chess board (Charnes, 1989), and an experienced radiologist sees organized patterns in an x-ray film that appear more fragmented and less meaningful to a novice radiologist (Lesgold et al., 1988). Three, experts are faster than novices at performing skills of their domain, and they quickly solve problems with little error. One reason experts are faster than novices is because they have so many skills practiced to the point of automatization. Another reason is that many problems for experts no longer require searching for a solution, since a solution has already been stored. Four, experts have superior short-term memory. This is not due to a superior biological capacity underlying their short-term memory. Rather, this ability is due to their having automatized so many skills and strategies to the point that their execution requires use of little short-term capacity. In addition, their vast knowledge of patterns and relationships in their domain of expertise also reduces the need for short-term capacity.

Five, experts see and represent problems in their domain at a deeper, more principled level than novices, whereas novices tend to represent problems at a superficial level. For instance, when comparing expert and novice credit analysts, both were able to encode the facts of a bank's status. However, only the experts were able to utilize those facts to draw conclusions about the financial viability of a bank (Yekovick, Thompson, & Walker, 1991). Six, experts spend proportionately more time analyzing problems qualitatively than do novices. That is, experts size up problems and attempt to identify patterns before attempting solutions. In addition, experts are more efficient at each step of the task, having honed many of the subskills to the point of automaticity and having quicker access to knowledge that might be used along the way in performing the task. Finally, experts have strong self-monitoring

skills. They are well aware of how they are doing as they work on tasks in their domain of expertise, and they test whether their solution is really permitting progress. If difficulty is detected with approximate solutions, they fine-tune their solutions.

As noted above, Leinhardt (2001) analyzed the verbal protocols of expert and novice teachers in order to determine which teacher statements or explanations contributed to core learning moments in the classroom. It is notable that most of the good instructional explanations cited in her paper were given by experienced or "expert" teachers. Researchers in the area of counseling/clinical and school psychology have also inquired into the thinking and professional behavior of experts in their respective fields. Those findings are presented below.

Expert Thinking in Counseling and School Psychology

Apart from the research conducted by Tryon, there have been only a few empirical studies examining the differences between expert and novice counselors. Murphy and Wright (1984) examined whether 12 expert counselors (with 3-12 years of clinical experience) were more adept than 45 novice counselors (undergraduate students) at listing the attributes of children with one of three psychiatric diagnoses (i.e., aggressive, depressive, and disorganized). Participants in this study were asked to describe the typical characteristics of an aggressive child, a depressive child, and a disorganized child. They were also instructed to be as specific as possible and to list as many characteristics as they could.

Data analyses showed that the number of attributes increased systematically with expertise. That is, experts, as compared to novices, had the richest, most detailed categories (Murphy & Wright, 1984), and this finding was observed in all three diagnostic categories. In addition, further analyses

showed that the level of interrater agreement increased significantly with expertise, and that this pattern was observed within each diagnostic category. For example, the most frequently listed features of aggressive children for experts were "fights," "feels angry," "feels sad," "feels anxious," and "bullies." In contrast, novices as a group were less likely to agree on the specific features of any child. Consequently, there were no frequently listed features reported for the novices.

Hillerbrand and Claiborn (1990) examined reasoning skill differences between 17 expert (5 or more years of clinical experience) and 15 novice counselors (doctoral-level students in counseling programs) engaged in a diagnostic task. Specifically, participants who were working in "applied psychological settings" were given three written, hypothetical psychological reports in standard format, including the client complaint, history of the complaint, social/family history, and mental status. Participants were then asked to orally generate diagnoses for each cases, give reasons for their choices, and make predictions about future client and counselor behaviors. The three cases were varied according to the clarity and presence of DSM-III diagnostically relevant information: The well-structured case contained information that was salient and highly relevant to the diagnosis of a particular personality disorder (i.e., anti-social personality). The ill-structured case contained information that was moderately relevant to the diagnosis of a major DSM-III Axis I disorder (i.e., depression). The randomly structured case contained information that was based on randomly selected symptoms contained in the DSM-III and from available psychopathology textbooks.

Data analyses indicated that the only differences between experts and novices were on ratings of their knowledge, confidence, and perceptions of

the cases' clarity. That is, experts, as compared to novices, felt more knowledgeable and confident, and they saw the cases as more clear. Interestingly, no differences between the reasoning skills of experts and novices were noted. The researchers concluded that the nature of the task (i.e., a written presentation of three hypothetical cases and unlimited time to generate a diagnosis) may have made it easier for novices to cognitively process the information and arrive at the correct diagnosis. They argued that if novices had been presented with actual clients and had a finite amount of time to generate a diagnosis, differences in reasoning skill between novices and experts might have been obtained (Hillerbrand & Claiborn, 1990).

Finally, Ganzach (1997) explored the differences between 42 expert ("experienced") and 16 novice ("trainee") clinical psychologists when rating the pathological and non-pathological cues (MMPI profiles and 8 clinical scales) of 861 psychiatric patients, about half of whom were diagnosed as psychotics and half of whom were diagnosed as neurotics. Each participant judged the same 861 MMPI profiles on an 11-step forced normal distribution scale, ranging from least psychotic (1) to most psychotic (11). Ganzach hypothesized that experienced clinicians would introduce systematic bias in the direction of giving heavier weight (i.e., more emphasis) to psychopathological cues and less weight to more positive features, a phenomenon which had been observed by others (Turk & Salovey as cited in Ganzach, 1997).

Data analyses found that both expert and novice psychologists assigned heavier weight to more pathological cues than non-pathological cues. However, this tendency increased significantly with expertise. That is, experts assigned heavier weight to more pathological information than novices. This finding is consistent with the notion that clinical expertise is associated with

assigning more importance to psychopathological information and less importance to more healthy psychological characteristics.

Much like their colleagues in counseling psychology, school psychology researchers have published only a few empirical studies on the differences in thinking and professional behavior of expert and novice school psychologists. The earliest study in this area (McDermott, 1980) examined diagnostic agreement among three levels of school psychologists: Novice practitioners (n=24) were master's or doctoral-level students who had completed their coursework, but had no formal supervised field experience. Intern practitioners (n=24) were graduate students who were working full-time in schools as interns, but had no more than 10 weeks of work experience. Expert practitioners (n=24) were working full-time in schools as psychologists; they had no less than 2 years and no more than 5 years of experience. All participants in this study were presented with three written child-case studies consisting of a full breadth of information (e.g., Wechsler IQ subtest scores, achievement test scores (WRAT), family history, personality test information (Rorshach, TAT), behavioral observations, parent interview observations, perceptual/organic test information (i.e., Bender, ITPA)). After reviewing the information, participants were asked to render diagnoses for each case.

McDermott (1980) found that agreement was absent at all three levels of experience, and further analyses showed a trend in which successively more trained and experienced school psychologists showed increasing disagreement. McDermott cautioned that his results may not be generalizable to other school psychologists, since his participants were drawn from a single school psychology training program. In addition, he noted that "the extent of incongruence among school psychologists seems no worse than that among associated disciplines" (p. 22). Similar results were reported by Gredler (1984),

who found no differences in diagnostic competence among practicing school psychologists and school psychology students.

Pryzwansky (1989) examined the problem-solving processes of 11 novice (half were first year and half were advanced graduate students) and 21 expert school psychologists (average of 10 years clinical experience) after being presented with an actual, audio-taped consultation case. The case involved a teacher and a principal who were consulting with a psychologist to indirectly enlist his help in "trapping" a student who had allegedly stolen money from his teacher's purse. The participants were instructed to listen to the tape as if they were the consultant, and then to "think aloud" as they were asked questions about the session (e.g., "What do you think is going on in the session?" "What would you do next?").

The participants' protocols were analyzed qualitatively for three different characteristics. First, the number of problems identified, strategies for handling a problem, and problem-strategy pairs were tallied for each participant. Thus, the number of problems without solutions, solutions without problems, and problems with concomitant solutions were recorded for each participant.

Second, the orienting mechanism of the consultant was ascertained. Orienting mechanisms reflect the consultant's framework for interpreting the consultation process. They help to represent the problem and may also reflect the use of schemata, which have been associated with expert problem solving in other studies (Pryzwansky, 1989). Three types of orienting mechanisms were examined: Consultants might ask an expectation-type question, such as "What do the consultees want from me?" They might also ask a logic-type question, such as "How objective are the consultees?" or "What do they consider the problem to be." Or they might ask a role-question such as,

"What can I provide to the consultees?" or "What should my role be -- should I be a problem solver?"

Finally, three levels of problem solving were identified: Level I protocols consisted of literal interpretations of what had been presented on the tape, and a "concrete level of thinking." Conversely, Level III protocols reflected more abstract problem-solving approaches to the problem, objectivity, a better representation of the problem, and well-developed strategies for dealing with the problem. Alternatively, Level II protocols reflected some abstract conceptualization of the problem, but not to the same degree as Level III. In addition, the Level II protocols reflected problem-solving strategies that were not as sophisticated as those found in the Level III protocols.

Pryzwansky (1989) analyzed his data by comparing first-year students with advanced students and experienced psychologists. He found no differences among the three groups, except in the ability of experienced psychologists to offer a Level III solution -- a solution offered by only half of the experienced group. Moreover, those participants who provided a Level III solution also utilized more orienting mechanisms, indicating that they were able to represent or conceptualize the problem at a more sophisticated level than the other participants. When comparing first year and advanced students, advanced students offered clearly different responses than first year students, and that their responses were similar to those of experienced psychologists with Level II responses (i.e., a subgroup who represented half of the experienced group). Further analyses of the Level II protocols indicated a good problem-solving approach, but a less than adequate problem-finding approach, since these participants tended to emphasize the wrong elements of a problem. Pryzwansky concluded that, on the whole, his experienced school

psychologists did not appear to be very much involved in consultation activities. He urged future researchers to "establish expertise" in their participant pool before commencing with their research.

Summary

In summary, this section presented Leinhardt's (2001) model of instructional explanations, Glaser & Chi's (1988) summary of the nature of expert thinking, and the few empirical studies on expert thinking from the fields of counseling and school psychology. The empirical research from the school and counseling psychology literature is somewhat disappointing, since there is a limited number of published studies and even fewer significant differences obtained. However, this literature does highlight the importance of "establishing expertise" when selecting expert participants (Pryzwansky, 1989), and of carefully developing the procedures that will be used to differentiate experts from novices (Hillerbrand & Claiborn, 1990; Murphy & Wright, 1984). Both the counseling and school psychology literature suggests that actual cases (Hillerbrand & Claiborn, 1990) and "think alouds" or verbal protocols (Pryzwansky, 1989) are the best procedures to utilize when comparing the cognitive processes of expert and novices practitioners. Indeed, the utility of think alouds and verbal protocols has also been demonstrated by educational psychology researchers, who found significant differences in the cognitive processes of expert and novice historians (Wineburg, 1990) and teachers of mathematics (Leinhardt, 1983) when employing such methods.

The more promising literature presented in this section is Leinhardt's model of instructional explanations and Glaser and Chi's (1988) outline of the seven major characteristics of expert thinking. These findings will be helpful in identifying the critical components of a good consultative explanation. This

literature will also be useful in developing a more general protocol for working with teachers within the context of consultation and assessment of children with academic problems.

In the next section, a study which categorized the verbalizations of consultation dyads (i.e., teacher and psychologist) while reviewing the assessment results of a child is presented. This research begins to address the question as to whether educational-type statements (i.e., explanations) on the part of the psychologist are associated with positive consultation outcomes.

Communication Patterns in Consultation and Assessment

In this final section, a rationale for including traditional psychoeducational assessment activities under the purview of school-based consultation services is offered. In addition, the results of a preliminary study (Rolih, 2001) examining the verbalizations of consultation partners engaged in the process of discussing the psychoeducational assessment results of a child are reviewed. The application of these results to the present study is also discussed.

The process of referring a child for a psycho-educational assessment can be viewed as one way of initiating consultative services. As mentioned previously, the crucial distinction between consultation services (i.e., indirect service delivery model) and other forms of psychological services such as psychotherapy (i.e., direct service delivery model), is not whether the consultant interacts directly with the client (i.e., child), but that the treatment services are delivered to the client solely by the consultee. In view of this distinction, it is clear that the traditional assessment activities conducted by psychologists fall within the purview of consultative services, as long as they facilitate the provision of remedial treatments by consultees (Gutkin & Curtis, 1999).

Thus far, the school consultation literature has offered a thorough analysis of the process-related variables that yield favorable results in schools. In short, the research has clearly demonstrated that both directive and collaborative approaches are associated with effective consultation. However, the literature is less clear when describing the specific reasons consultation services were sought. Researchers usually stated that teachers required assistance in managing the academic or behavioral difficulties of a child. But they never elaborated about the manner in which the child's difficulties were assessed and treated, despite the recognition that psychoeducational assessment is often a necessary step in understanding the nature of a child's academic difficulties. Moreover, researchers offered no analyses of the conversations between consultation dyads when discussing the assessment results of a child. Consequently, the literature affords no theoretical model or practical framework outlining how to convey psychoeducational assessment results to teachers in a meaningful and accurate manner. In addition, there is no model suggesting how to link the assessment findings to a child's academic difficulties and to possible classroom interventions that are acceptable to teachers. Finally, there are no data which compare the verbalizations of expert and novice consultants when explaining assessment results to teachers. These comparisons are critical in understanding how to effectively consult with teachers, especially within the context of consultation and assessment.

Rolih (2001) examined the communication patterns and specific statements of consultation partners engaged in the process of reviewing the psycho-educational assessment results of a child referred for academic difficulties. The purpose of the study was to better understand the role of the psychologist within this defined context, and to discern the different types of

statements made by the partners during such a meeting. Rolih categorized the dyads' statements in terms of their prescriptive (i.e., generating interventions to deal with a problem), supportive (i.e., acknowledging that there is a problem), and educational (i.e., reviewing the assessment data and discussing the possible interventions for the child) characteristics. In this preliminary investigation, four conversations were audio taped and then transcribed and coded according to the CAR (see Table 2). In addition, Gutkin's (1996) Process Overt Content code was incorporated into the coding scheme. As mentioned previously, this category was used to identify verbalizations "that addressed the problem solving process itself, rather than the specifics of a presenting problem" (p. 202). The participants were two experienced (with a minimum of 5-10 years of assessment experience) doctoral-level psychologists and four teachers. The data were collected in two suburban, public elementary schools in New York.

The data analyses were descriptive. The initial analysis computed the total percentage of consultant and consultee verbalizations, and showed that consultants spoke more frequently than consultees (70% vs. 30%) overall. The percentages of consultant and consultee verbalizations that fell into each CAR Content subcategory and Process subcategory were also computed. Analyses of the Content subcategories showed that both groups made the most utterances in the Individual Characteristics (psychologists 28.7%; teachers 33.4%), Behavior (psychologists 23%; teachers 22.1%), and Background Environment (psychologists 14.2%; teachers 21.5%) subcategories. In addition, the data showed that psychologists made more Process Overt utterances than teachers (n=14 vs. n=3). Analyses of the Process subcategory codes indicated that psychologists and teachers made the most utterances in the Specification subcategory (psychologists 79.6%; teachers 57.2%). In addition, it was noted

that Positive Validation utterances were made more frequently for both psychologists (7.7%) and teachers (34.9%) than Negative Validation utterances, which were barely spoken by either group (psychologists .2%; teachers 1.1%).

Rolih (2001) concluded that psychologists and teachers shared several important responsibilities during their discussions. First, they both contributed to the content of the conversation by sharing their impressions of a child's characteristics and behaviors that relate to learning. They also shared their knowledge of any significant family dynamics that might be impacting upon a child's academic performance. Finally, they were generally supportive of and open to hearing each other's thoughts and opinions.

However, an analysis of the assessment-related comments and instructional suggestions indicated that several critical responsibilities were assumed only by the psychologist (Rolih, 2001). First, psychologists were responsible for educating teachers about the relevant findings and their significance to the child. In this role, psychologists spent most of their time explaining, elaborating, and defining what had been observed during the assessment process and how these findings related to a child's academic difficulties. Second, psychologists assumed responsibility for imposing and maintaining a structure for the meeting and, in doing so, ensured that all important findings and issues would be addressed. Last, psychologists assumed responsibility for recommending educational interventions to teachers who were having difficulty working with a child. During this time, psychologists questioned teachers about which educational interventions would be acceptable to them and then made suggestions for their implementation in the classroom.

The experience or "expertise" of the school psychologists was confirmed in a review of two randomly selected protocols by an outside expert in

counseling and school psychology. Rolih (2001) cautioned, however, that the findings must be interpreted with caution due to the small sample size and preliminary nature of the investigation. The dissertation study that follows is based upon this preliminary study. This study will utilize a larger sample size, an expanded communication coding system, and will contrast expert (i.e., more than five years work experience) and novice school psychologists (i.e., psychologists with less than one year of work experience).

Purpose of Present Study

The purpose of the current study is to test the strength and validity of the findings reported by Rolih (2001). Accordingly, the study will examine the communication patterns and specific statements of teachers and school psychologists when reviewing the psychoeducational assessment results of a child referred for academic underachievement. In the present study, a larger sample size of six expert (i.e., experienced) psychologists and six novice psychologists will be employed. In addition, the study will qualitatively and quantitatively examine the manner in which psychologists explain the significance of the assessment findings to teachers and describe how the findings relate to a child's academic difficulties. The data from the present study will contribute to the development of a model for consultation and assessment of children with academic difficulties.

Research Questions and Hypotheses

The proposed research study will compare the communication patterns and cognitive structures of teachers and psychologists when discussing the assessment results of a child referred for academic underachievement. The study will also examine the communication patterns and mental structures of expert and novice school psychologists as they consult with the teachers of children with academic problems. The following hypotheses are drawn from

the consultation/school psychology process literature and Rolih (2001). It is expected that all school psychologists and teachers will demonstrate the following communication behaviors:

(1) Share information about the child's background/family dynamics, behavior, and individual characteristics that appear related to the child's academic difficulties.

(2) Be supportive of and open with each other, as these behaviors foster the development of a positive and collegial working relationship.

The above literature also suggests that school psychologists will assume unique responsibilities during the consultation meeting. Thus, it is expected that psychologists will evidence more of the following communication behaviors than teachers:

(3) Provide a structure for the meeting to ensure that all important issues and questions will be addressed.

(4) Explain the pertinent assessment findings to teachers.

(5) Assume responsibility for prescribing remedial interventions for children that are acceptable to teachers and, thus, have an increased likelihood of being implemented in the classroom.

The hypotheses below are drawn from the counseling psychology research, research on teaching, and the expert/novice research. It is expected that experience and knowledge will influence the way expert psychologists understand and explain their assessment results to teachers. This experience and knowledge will be manifested in the following manner:

(6) Experts, as compared to novices, will give complete explanations of the relevant test data (see Appendix D). Briefly, a complete explanation is comprised of five parts: (1) a description of the test/subtests, (2) a statement about the test/subtests results, (3) an interpretation(s) of the test/subtest

results, (4) a statement(s) or example(s) which links the test data to the child's classroom behavior and academic difficulties, and (5) a question(s) which checks for the teacher's understanding of the explanation.

(7) Experts, as compared to novices, will address contradictions in the testing data. They will also address when there are contradictions between the testing data and the teacher's classroom observations or the psychologist's observations. Experts will explain these contradictions to teachers and check to make sure that teachers understand their explanations.

(8) Experts, as compared to novices, will see organized patterns (i.e., consistencies) or a profile in the data. Accordingly, expert/novice protocols will be examined for specific rules of thumb or heuristics employed to distinguish areas of agreement and disagreement among different aspects of the test data.

Quantitative analyses will be conducted using the Consultation Analysis Record (CAR) - Revised (see Appendix E). Qualitative analyses will also be conducted. The linking of hypotheses to data analyses is discussed in Chapter 3.

CHAPTER 3

Method

Recruitment of Participants and Informed Consent

This study consisted of the audio taping of a teacher and a school psychologist who met to discuss the psychoeducational assessment results of a child referred by the teacher for academic underachievement. Data for this study were collected at several suburban, public elementary schools in New York. The researcher consulted with the school psychology faculty at the Graduate Center and Queens College, CUNY for assistance in finding practicing school psychologists who they felt were "experts" in consultation and assessment. These expert psychologists were then contacted by the researcher and asked if they would like to participate in the study. The experts were also asked if they could recommend other "experts" for participation in the study. In addition, the experts were asked if could recommend school psychology interns for participation in the study or if they knew of other school psychology supervisors who had interns currently working with them. These supervisors and/or interns were subsequently contacted by the researcher and asked if they would like to participate in the study.

Contacts for the study were made through the school psychologist and adhered to the following procedures. A letter of approval to conduct the study was obtained from the principal of each participating school (see Appendix A). Written consent forms were obtained from the school psychologist, the teacher, and the parents of the child referred for academic underachievement (see Appendix B). Parents were notified that their child would be given a pseudonym during the transcribing of the tape, and teachers and psychologists were informed that their identities would be protected by

assigning a participant code of "T" to all teachers and a code of "C" to all psychologists during the transcribing of the tapes.

Experts

Each participating school employs at least one full-time, doctoral-level school psychologist, whose professional responsibilities include, but are not limited to, the provision of psychoeducational assessments to children who are underachieving academically. Psychologists with more than seven years of professional consultation and assessment experience were recruited for the study as experts. This designation of "expert" was validated by the researcher who reviewed each transcript to determine if a psychologist met the provisional criteria for the expert designation (see Appendices C and D). In addition, two "expert" transcripts were randomly selected and an expert in counseling and school psychology reviewed them to determine if a psychologist met the provisional criteria for the expert designation (see Appendices C and D). A total of six expert psychologists were recruited for the study. Two psychologists were male and four were female.

Novices

Novice or beginning school psychologists were recruited from four large, urban university school psychology training programs and were enrolled in either a doctoral or certificate program. Participants in this group were completing their final year of professional training and were working in elementary schools as psychology "interns." Consequently, they had less than one year of formal consultation and assessment experience. The designation of "novice" was validated by the researcher, who reviewed each transcript to determine whether the psychologist met criteria for the novice designation. In addition, an expert in counseling and school psychology reviewed two "novice" transcripts randomly selected to determine if the

classification was warranted. A total of six novice psychologists were recruited for the study. All novice psychologists were female.

This selection of expert and novice participants is consistent with the recommendations from the cognitive psychology literature, wherein an expert is defined as an individual who possess a large store of domain specific knowledge, and a novice is defined as a newcomer to that domain (Voss, Vesonder, & Spilich, 1980). All "experts" met the majority of the provisional criteria in terms of the communication patterns (see Appendices C) and instructional explanations (see Appendix D). However, subsequent qualitative analyses of the expert and novice transcripts indicated that two experts did not evidence "expert behavior" on the transcripts due to differences in the nature of the case and referral question. Thus, they were not included in the qualitative analyses of the present study. In addition, one novice evidenced behavior that suggested she was in transition from novice to expert status. Therefore, she was not included in the qualitative analyses of this study.

Teachers and Parents

Psychologists (i.e., experts and novices) selected teachers for participation in the study. Teachers who referred a child to the psychologist for a psychological evaluation were considered eligible for participation in the study. Psychologists were directed to select a teacher who indicated interest in "consulting" or working with the psychologist in determining why the child was not succeeding academically and in developing interventions that might improve the child's academic performance. When teachers agreed to participate in the study, they completed a teacher consent form (see Appendix B) and a teacher questionnaire (see Appendix F). All 12 teachers who participated in the study were female and regular education teachers. The years of teaching experience for the teachers with experts ranged from

3.5 years to 12 years. Years of teaching experience for teachers with novices ranged from 2.5 years to 16 years.

In addition, psychologists contacted the parents of the referred child to explain the study. This procedure was followed to protect the identities of the children and their families. Parents who agreed to participate in the study were asked to complete a parental consent form (see Appendix B). The experts obtained parental consent for three male and three female children. The novices obtained parental consent for four male and two female children.

Groups for Quantitative and Qualitative Analyses

The descriptive/preliminary analyses were carried out on the following groups for comparisons: (1) 12 psychologists and 12 teachers and (2) 6 expert psychologists and 6 novice psychologists. However, the composition of the groups changed for the qualitative analyses. The qualitative analyses were carried out using 4 expert psychologists and 5 novice psychologists.

Procedures

Teachers and psychologists who agreed to participate in this study had their consultation meeting audio-taped. Only the teacher who referred the child for testing and the psychologist who assessed the child were present during the meeting. The tapes were subsequently transcribed and coded. All tapes were transcribed in a manner that ensured the anonymity of each child (i.e., a pseudonym was provided for each child during the transcribing of the tape). In addition, each psychologist was assigned a code of "C" and was given a number. Similarly, each teacher was assigned a code of "T" and was given the same number as the psychologist with whom he/she consulted. The transcripts were coded according to the Consultation Analysis Record (CAR) - Revised (see Appendix E) for the quantitative analyses. The CAR - Revised

classifies verbalizations according to their Source, Content, Process, and Control functions.

Measures

Consultation analysis record-revised.

The quantitative study contained the following measures: The Consultation Analysis Record (CAR) - Revised (see Appendix E) is an extension of the CAR (Bergan & Kratochwill, 1990), which was designed specifically for school consultation research and practice. The CAR classifies teachers' and psychologists' verbalizations according to their Content (i.e., Background Environment, Behavior Setting, Behavior, Individual Characteristics, Observation, Plan, and Other), Process (i.e., Specification, Positive Evaluation, Negative Evaluation, Inference, Summarization, Positive Validation, and Negative Validation), and Control (i.e., Elicitor and Emitter) characteristics. The CAR - Revised contains three additional Content subcategories for coding assessment-related content that are not included in the CAR: The Process Overt subcategory (Gutkin, 1996) identifies verbalizations that explicitly address the problem-solving process itself (e.g., Psychologist: "Let's start the meeting by reviewing the assessment data."). The Test Description subcategory identifies statements related to the skills a test or subtest measures (e.g., Psychologist: "The Similarities Subtest measures the capacity for abstract thinking with words"). Finally, the Test Results subcategory identifies statements describing a child's score on a test (e.g., Psychologist: "On the verbal scale, John achieved a score of 105, which corresponds to the average range.").

Inter-rater reliability of the CAR.

Inter-observer reliability for the CAR (Bergan & Kratochwill, 1990) is good, and several researchers have demonstrated that relatively high agreement (i.e., 90% and above) can be established with the CAR when coding

a consultation interview (Bergan & Tombari, 1975, 1976; Kratochwill, Van Someren, & Sheridan, 1989). In addition, the criterion-related validity of the CAR has been assessed by examining the correlations of various CAR subcategories with other diverse assessment criteria (e.g., a consultee's ability to define a problem) (Bergan & Kratochwill, 1990). These analyses have shown that actual verbalizations of behaviorally trained consultants are predictive of consultees' ability to define a problem (Tombari & Bergan, 1978). Finally, the construct validity of the CAR has been assessed by measuring how subcategories of the CAR relate to specific processes occurring within consultants or consultees (Bergan & Kratochwill, 1990). One such investigation found that specific statements of behaviorally trained consultants differentially affected consultees' problem definition and expectations to solve a problem in the classroom (Tombari & Bergan, 1978).

Inter-rater reliability of the CAR-Revised.

The inter-rater agreement of the CAR-Revised (Rolih, 2002) was also estimated by randomly selecting 4 dissertation transcripts (2 expert and 2 novice) for independent coding by a recent graduate of a master's-level school psychology program located in New York City. Pilot study transcripts (Rolih, 2001) were used to train the coder on the use of the CAR-Revised (Rolih, 2002). Kappa's (SPSS, 1999) were calculated for the Content Subcategory and Process Subcategory codes. Kappa's on the pilot transcripts ranged from .67 -.72 for the Content Subcategory Codes and .75 -.82 for the Process Subcategory Codes. Independent coding began on the dissertation transcripts despite not having obtained Kappa's of .80 on the pilot study transcripts. Kappa's for the dissertation transcripts ranged from .63- .68 on the Content Subcategory codes to .78- .82 on the Process Subcategory codes.

Provisional criteria for expert communication behavior and provisional criteria for complete explanations by experts.

Two additional measures were included in this study: *The Provisional Criteria for Expert Communication Behavior* (see Appendix C) and *The Provisional Criteria for Complete Explanations by Experts* (see Appendix D). These measures were used in the qualitative analyses of the transcripts. The *Provisional Criteria for Expert Communication Behavior* lists specific content areas that should be addressed by the psychologist and, thus, offers a general outline for expert interviews pertaining to consultation and assessment of children with academic difficulties. The *Provisional Criteria for Complete Explanations by Experts* delineates the five integral components of a good consultative explanation relating to the assessment of children with academic problems. For the purposes of this study, each expert transcript was evaluated on the bases of the provisional criteria outlined in Appendices C and D, and was then given a score indicating how many criteria were achieved on each provisional measure. All experts met the majority of criteria in Appendices C and D; hence, all were included in the preliminary analyses of the study. However, as noted previously, subsequent analyses indicated that two experts and one novice did not meet criteria for their respective classifications due to differences in the case/referral question (i.e., expert transcripts) and professional development (i.e., novice in transition to expert status). Thus, they were not included in the qualitative analyses of the study.

Summary of Cases for Experts and Novices

Below is a summary of the cases from the four expert and five novice transcripts used in the qualitative analyses. The summaries contain the child's gender and grade, the referral question, the tests administered, the

major findings from the evaluation, and the recommendations developed for the child.

Expert Cases

Expert #1 evaluated a second-grade child, "Greg," who was referred for general academic underachievement. The child was currently receiving Academic Intervention Services (AIS) at the time of the evaluation, but the frequency with which he received such services was not specified during the meeting. The psychologist administered the Wechsler Intelligence Test for Children-Third Edition (WISC-III) and projective tests, though she did not specify which projective tests she used. She also reviewed the child's performance on the Wechsler Individual Achievement Test-II (WIAT-II) and the speech/language evaluation, both of which were administered by different examiners. She found that the child had relative strengths in the visual, spatial areas and that his academic skills were "within the average range." Weaknesses were noted in the areas of auditory processing, organization and attention to details. His expressive language skills were "variable." She recommended several classroom interventions, such as preferential seating, calling the child by name before asking him a question, encouraging the child to indicate when he does not understand a directive, positive reinforcement for good work, and using visual organizers to help with planning and organization. In addition, she recommended that the child continue to receive Academic Intervention Services (AIS). Speech and language services were also recommended. It was decided that the child would not be referred to the Committee for Special Education (CSE) to ask for additional services beyond the speech and language therapy, since both the teacher and psychologist wanted an opportunity to use the evaluation data "in our planning and teaching" before referring the child to CSE.

Expert #2 evaluated a kindergarten child, "Henry," who was referred for inattention and poor fine motor skills and to determine if he is "ready" for kindergarten. The psychologist administered an "Early Screening Profile," which examines specific cognitive skills (e.g., verbal concepts, visual discrimination), basic school skills, and articulation. In addition, she conducted an informal screening to assess the child's knowledge of the alphabet, number counting skills, and ability to respond to directions appropriately. She also conducted a classroom observation. The psychologist reported that all of the child's test scores were "within the average range" and that the child appeared "ready" for kindergarten. She recommended that the teacher repeat directions in class and that the teacher "hold his face" when she speaks with him one-on-one to ensure that she has the child's attention. She also encouraged the teacher to ask the child to "tell me what I just said" to ensure that the child understands her directions. Finally, the child was referred for an occupational therapy evaluation to determine whether his fine motor skills were developing appropriately for his age.

Expert #3 evaluated a first-grade child, "Rick," to determine if the child had ADHD and a reading disability. The psychologist administered the WISC-III, the WIAT-II, the Test of Written Language-III (TOWL-III), a standardized reading test assessing decoding skills, oral reading ability and comprehension skills, the Behavior Assessment System for Children (BASC) - teaching rating scale, and a sentence completion test for children (i.e., projective measure).

In addition, the psychologist conducted a classroom observation and interviewed the child's grandmother, with whom the child was living at the time of the evaluation. The psychologist reported that the child is "intellectually bright," and that she found no evidence of a specific reading disability. However, she did find evidence of inattention across her testing and on the teacher's rating scale (i.e., BASC). Despite the evidence of inattention, the psychologist decided not to make a diagnosis of ADHD, as she had concerns about the child's "stressful family environment." The psychologist explained that the family environment may be contributing to the child's inattention and poor school performance. Thus, she recommended counseling for the grandmother and Rick as well as a classroom behavior modification program, where Rick would be reinforced for completing small portions of his class assignments. She noted that she wanted to see if the counseling would help the "family dynamics," which, in turn, should improve the child's academic performance. She also noted that she would follow Rick's school progress to see if her recommendations would need to be revised in the future.

Expert #5 evaluated a 4th grade child, "Katie," to determine if her poor academic performance was due to learning problems or to "residual ESL issues," as Katie had emigrated from Europe to the US two years ago. The psychologist administered the WISC-III, a test of visual motor functioning, and a clinical interview and projective tests, though he did not specify which projective tests he used. He also reported on the findings from the educational evaluation, during which an individual achievement test was administered. The psychologist found that Katie's STM and LTM skills are weak, as are her abstract reasoning and inferential skills. Her strength was in the area of rote processing. These findings were consistent with the results from the educational evaluation. In addition, the psychologist stated that Katie was "an emotionally intelligent" or socially skilled child and that her artwork or drawing skills "were impressive." Resource room was recommended for Katie, since both the psychologist and teacher felt that she would benefit from the "repetition and having things explained to her."

Novice Cases

Novice #8 evaluated, "Gary," a first grade child, who was referred for poor academic achievement. The psychologist administered the WISC-III, the Bender Visual-Motor Gestalt Test and the Beery Test of Visual-Motor Integration. In addition, the psychologist interviewed the child's reading teacher. The psychologist found that the child's overall IQ was "just a few points below" the average range. She also stated that he performed better on visual, spatial tasks than on verbal tasks, though most of his scores fell within the average range to "high end of the low average range." However, the child demonstrated "significant weaknesses" on tests of visual-motor ability, particularly on tasks that were less structured (i.e., the Bender). The teacher described the child somewhat differently, noting that he is "low functioning" and "is not making progress" in his academic work. The psychologist remarked that the reading teacher voiced similar concerns. The teacher requested that the child receive "some sort of service for next year." The psychologist agreed and the two decided to refer the child to the CSE, where they could make a formal request for academic assistance. In addition, they decided that the child should be evaluated by an occupational therapist to address concerns regarding his fine-motor and visual-motor skills.

Novice #9 evaluated a third grade student, "Ann," who was referred for poor academic achievement and to determine if the child had ADHD. The psychologist administered the WISC-III and an ADHD screening tool - teacher version. The child obtained a full scale IQ that fell within the average range. Her performance IQ fell within the above average range and her verbal IQ fell within the average range. The psychologist reported the child's score on each subtest of the WISC-III, noting that the child earned bonus points for speed on the Performance Scale items. The child's score on the Freedom from Distractibility Index fell within the average range, indicating that Ann does not have problems with inattention. Further, the psychologist reported that she did not see problems with inattention during the evaluation, but she acknowledged that the testing environment (i.e., one-on-one with the child) was quite different from a classroom situation. On the ADHD screening tool, however, the teacher's ratings on the inattention scale were significant, suggesting that the teacher sees the child as inattentive in the classroom. The psychologist did not state whether she thought an ADHD/psychiatric evaluation was indicated and no recommendations were made for the child.

Novice #10 evaluated "Nate," a 4th grade student, who was referred for below average performance in reading and math and for the issue of distractibility in class. At the time of the evaluation, Nate was receiving Academic Intervention Services (AIS) four times a week for help in the areas of reading, writing and math. The psychologist administered the Woodcock Johnson-III-Tests of Cognitive Ability (WJ-III-COG), curriculum-based measures in reading and math, and the Comprehensive Test of Phonological Processing (CTOP). She also administered the Cognitive Assessment System (CAS), which measures attention and planning skills, the DiSimoni Token Test for Children, which measures auditory comprehension skills, and the Behavior Assessment System for Children (BASC) - teacher and parent rating scales. The psychologist found that the child had strengths in the areas of overall intelligence, expressive and receptive language skills and reading comprehension. Weaknesses were noted in the areas of "cognitive efficiency" or cognitive processing speed, short-term memory, "broad issues in all academic areas" (i.e., reading, math, and writing), and "overall attention" (e.g., poor expressive and receptive attention and poor attention with background noise). In addition, the teacher's scores on the BASC fell in the clinically significant range for hyperactivity, restlessness, impulsivity and inattention. The psychologist recommended a psychiatric evaluation to rule out ADHD and to increase the AIS to five times a week for math and reading. The psychologist also noted that she recommended several classroom interventions for Nate and that the teacher could find those recommendations in the psychological report.

Novice #11 evaluated "Jane," a 4th grade student, who was referred for poor math and written expression skills, inattention and inability to stay on task, and symptoms of ADHD. At the time of the evaluation, Jane was receiving Academic Intervention Services (AIS) four times a week to address her weaknesses in reading, writing and math. The psychologist administered the Woodcock Johnson-III-Tests of Cognitive Abilities (WJ-III-COG), the Cognitive Assessment System (CAS), which is a measure of attention and planing, an ADHD screening tool - teacher and parent versions, and an achievement test in the areas of reading, math, writing and spelling. The psychologist found that

Jane has short-term memory deficits, processing speed or cognitive efficiency deficits, auditory processing difficulties, problems with planning and changing strategies or "cognitive set," written expression difficulties, a slow rate of reading, and difficulty answering inferential questions. In addition, the teacher and parent behavior rating scales placed Jane in the "clinically significant" range for issues of hyperactivity, impulsivity, inattention, motor restlessness and social skills. After hearing the psychologist's findings, the teacher noted that Jane is erasing her work constantly and is consumed with forming her letters perfectly when working on a writing assignment. She also remarked that Jane is constantly pulling on her pants during class. The psychologist commented that Jane is doing these "OCD-like behaviors." The teacher and psychologist decided that a psychiatric evaluation was indicated to determine if Jane required medication to help manage the OCD-like behaviors. They also decided to refer Jane to the CSE. This recommendation would allow Jane to be formally classified as a child with a learning disability and ensure that she continued to receive academic assistance outside the classroom. Finally, several classroom interventions were recommended, including preferential seating near the teacher, shortening her assignments, and giving her additional time so that she can process her information and have time to verbally rehearse her ideas before putting them on paper. In addition, the psychologist recommended giving her planning pages when working on structured writing assignments, paraphrasing instructions and having her repeat instructions back to the teacher, and giving her one-step directions instead of multi-step directives.

Novice #12 evaluated "Ted," a fourth grade child, who was referred for poor academic performance in math and written expression and to determine whether the child had ADHD. The psychologist administered the Woodcock Johnson-III-Tests of Cognitive Abilities (WJ-III-COG), the Cognitive Assessment System (CAS), which measures planning and attention, achievement testing in math, reading and writing, and the Behavior Assessment System for Children (BASC)-parent scale. The psychologist found that Ted is "very bright and has a lot of potential." He has good verbal skills (e.g., vocabulary, retrieving words), problem-solving abilities, math skills, and social skills. Weaknesses were noted in the areas of attention and sustaining concentration, changing his way of thinking or "cognitive set," writing skills (e.g., grammar and punctuation), and spelling (i.e., poor phonetic skills). The psychologist concluded that she felt Ted had "attentional issues big time." The teacher and psychologist agreed that a psychiatric evaluation was indicated to explore the issue of ADHD. No other recommendations were made for Ted.

Data Analysis

Descriptive/Preliminary Analyses

The following data analyses were carried out on two sets of participants: (1) 12 teachers and 12 psychologists and (2) 6 expert psychologists and 6 novice psychologists. The data were initially examined to determine whether years of teaching experience and gender influenced the total number of

verbalizations for a pair and the percentage of total psychologist verbalizations. Next, the data were analyzed descriptively to ascertain participant usage patterns for the CAR - Revised category codes (see Appendix E). Thus, the total frequencies and percentages for the number of statements in each CAR - Revised Content, Process, and Control Subcategory were calculated for all participants.

Descriptive/Quantitative Analyses

Specific variables from the CAR - Revised are tied to the following five hypotheses, which were drawn from the school consultation literature and Rolih (2001). It is expected that all school psychologists and teachers will evidence the following communication behaviors:

(1) Share information about the child's background/family dynamics, behavior, individual characteristics that appear related to the child's academic difficulties. These behaviors will be demonstrated by verbalizations in the Background Environment, Behavior, and Individual Characteristics Subcategories of the Content Category. However, it is expected that psychologists will make more of these statements than teachers.

(2) Be supportive of and open with each other, as these behaviors foster the development of a positive working relationship. These behaviors will be demonstrated by more verbalizations in the Positive Validation Subcategory of the Process Category than in the Negative Validation Subcategory of the Process Category. However, it is expected that teachers will make more Positive Validation statements than psychologists.

In addition, the findings from Rolih (2001) suggest that school psychologists will assume unique responsibilities during the consultation meeting. Thus, it is expected that psychologists will evidence more of the following communication behaviors than teachers:

(3) Provide a structure for the meeting to ensure that the important issues and questions will be addressed. This behavior will be evidenced by the small, but important, number of statements in the Process Overt Subcategory of the Content Category.

(4) Explain the pertinent assessment findings to teachers. This behavior will be shown by the large number of statements in the Specification Subcategory of the Process Category. In addition, this behavior will be evidenced by verbalizations in the Test Description and Test Results Subcategories of the Content Category.

(5) Assume responsibility for prescribing remedial interventions for children that are acceptable to teachers and, thus, have an increased likelihood of being implemented in the classroom. This behavior will be demonstrated by statements in the Plan Subcategory of the Content Category.

Qualitative Analyses

The transcripts were also analyzed qualitatively. First, the expert transcripts were analyzed to determine whether all experts met the provisional criteria for the expert designation (see Appendices C and D). Second, the verbal protocols were carefully reviewed and analyzed via the "constant-comparative" method (Glaser & Strauss, 1967). The constant-comparative method combines the procedure of coding the data into categories (e.g., Appendices C & D) with the procedure of analyzing (or inspecting) the data so that existing categories can be refined as new properties emerge. This method of joint coding and analysis is intended to generate theory more systematically than that allowed by the analysis (i.e., inspecting) approach, since both explicit coding and analytic procedures are utilized (Glaser & Strauss, 1967). This method resulted in changes to the original provisional criteria (see Appendices C & D). These changes are presented in Appendix G,

The Pattern of Expert Communication Behavior in Consultation and Assessment, and Appendix H, *A Cognitive Model of Consultative and Assessment Explanations by Experts.*

In addition, as a result of the constant-comparative method (Glaser & Strauss, 1967), two expert transcripts and one novice transcript were not included in the remaining qualitative analyses. Two expert transcripts did not evidence "expert behavior" due to differences in the case and referral question. One novice transcript contained verbal behavior suggestive of a professional in transition from novice to expert status.

The constant-comparative method was employed to test hypothesis #3 and hypotheses #5 - #8. It is expected that expert psychologists will evidence more of the following communicational behaviors than novices:

(3) Impose a structure on the meeting to ensure that important issues and questions will be addressed. To test this hypothesis, the differences between the behavior of experts and novices were initially explored on item 1 of Appendix C -- *The Provisional Criteria for Expert Communication Behavior.* Based on the results from the constant-comparative method (Glaser & Strauss, 1967), the provisional criteria were revised and the differences in the behavior of experts and novices were subsequently examined on item 1 of Appendix G, *The Pattern of Expert Communication Behavior in Consultation and Assessment.*

(5) Assume responsibility for prescribing remedial interventions for children that are acceptable to teachers and, thus, have an increased likelihood of being implemented in the classroom. To test this hypothesis, the differences in the behavior of experts and novices were initially examined on item 4 of Appendix C -- *The Provisional Criteria for Expert Communication Behavior.* Based on the results from the constant-comparative method (Glaser & Strauss,

1967), the provisional criteria were revised and the differences in behavior of experts and novices were subsequently examined on item 4 on Appendix G, *The Pattern of Expert Communication Behavior in Consultation and Assessment* and on item 5 on Appendix H, *A Cognitive Model of Consultative and Assessment Explanations by Experts.*

The last three hypotheses were developed from the counseling psychology research, research on teaching, and the expert/novice research. It is expected that experience and knowledge will influence the way expert psychologists understand and explain their assessment results to teachers. This experience and knowledge will be manifested in the following manner:

(6) Experts, as compared to novices, will give complete explanations of the relevant test data (see Appendix D). Briefly, a complete explanation is comprised of five parts:

> (1) a description of the test/subtests, (2) a statement about the test/subtests results, (3) an interpretation(s) of the test/subtest results, (4) a statement(s) or example(s) which links the test data to the child's classroom behavior and academic difficulties, and (5) a question(s) which checks for the teacher's understanding of the explanation.

To test this hypothesis, the differences between experts and novices were initially explored on the criteria outlined on Appendix D. These criteria were revised after utilization of the constant-comparative method (Glaser & Strauss, 1967), and the differences between experts and novices were subsequently examined on Appendix H, *A Cognitive Model of Consultative and Assessment Explanations by Experts.*

(7) Experts, as compared to novices, will address contradictions in the testing data. They will also address contradictions between the testing data and the teacher's classroom observations or the psychologist's observations. Experts

will explain these contradictions to teachers and check to make sure that teachers understand their explanations. To test this hypothesis, the differences between the manner in which experts and novices address the contradictions in the testing data will be examined.

(8) Experts, as compared to novices, will see organized patterns (i.e., consistencies) or a profile in the data. Accordingly, expert/novice protocols will be examined for specific rules of thumb or heuristics employed to distinguish areas of agreement and disagreement among different aspects of the test data. The differences between the heuristics or rules of thumb employed by experts and novices will also be examined.

Finally, case studies were conducted. These investigations allowed for a broader examination of the manner in which experts conduct their meetings with teachers, and helped to clarify which communication behaviors are characteristic of expert psychologists who regularly consult with teachers about children with academic difficulties (see Appendix G). Case studies also provided an examination of the degree to which experience and knowledge influence the way psychologists understand and explain the assessment data to teachers. Specifically, these analyses afforded an in-depth examination of the types of explanations made by expert psychologists and helped to further refine the integral elements of a complete consultative explanation (see Appendix H). In addition, the case studies allowed for an exploration of the extent to which experts see organized patterns in the test data, as well as the manner in which experts make sense of the inconsistencies or contradictions in the testing data, and the degree to which they explain these inconsistencies to teachers.

CHAPTER 4

Results

Quantitative Analyses

Descriptive/Preliminary Analyses

The results for the preliminary analyses are presented in three sections. First, the gender, years of experience, total number of utterances, and percentage of total psychologist utterances were recorded for all pairs (see Table 6). Second, descriptive analyses were employed to ascertain the communication patterns on the CAR-Revised (Rolih, 2002) for 12 consultees (i.e., teachers) and 12 consultants (i.e., psychologists). Thus, the total frequencies and percentages for the number of statements in each CAR-Revised Content, Process, and Control subcategories were calculated for all participants. Third, descriptive statistics were utilized to ascertain the usage patterns on the CAR-Revised (Rolih, 2002) for 6 expert and 6 novice psychologists. However, in these analyses, the transcripts were divided into equal thirds (Tryon, 2003), and then comparisons were made between experts and novices.

Gender, Years of Experience, Total Verbalizations for a Pair, and Percentage of Psychologist Verbalizations

The gender, years of professional experience and total number of utterances for a pair are presented in Table 6. In addition, the percentage of total psychologist utterances is shown. These data were examined to determine if gender and years of experience influence the total number of utterances for a pair and the percentage of total psychologist utterances. The two pairs with the highest number of total utterances are Expert #3 and Novice #7. Both pairs were comprised of female participants and the teachers had varying levels of experience (i.e., 3.5 years and 14 years). The two pairs with the lowest

number of utterances were Expert #4 and Novice #9. The expert pair was comprised of a male psychologist and a female teacher, whereas the novice pair was comprised of two females. The teachers had 12 years and 15 years of experience respectively. These data suggest that gender (i.e., female) may have encouraged conversations that were more extensive, as shown by the higher percentages of total utterances for these all-female pairs. However, years of professional experience for psychologists clearly does not appear to influence the total number of utterances for a pair. Likewise, years of teaching experience did not influence the total number of utterances, as evidenced by the broad range of teaching experience for the extensive conversations (i.e., 3.5 years to 14 years) and the relatively narrow range of experience for the shorter conversations (i.e., 12 years to 15 years). Indeed, examination of the number of total utterances under 300 verbalizations indicates that teaching experience ranged from 7 years to 16 years. Thus, teaching experience did not necessarily encourage shorter conversations with the psychologist.

There were four pairs for which there was a 50-50 split or nearly a 50-50 split in terms of the percentage of total psychologist verbalizations. All four pairs were comprised of female participants. Thus, it seems that gender may have been an influence in terms of percentage of total psychologist verbalizations; however, this interpretation is limited by the small number of males in the study and because the percentages are not high relative to remaining data set. In addition, the 50-50 split was observed in two pairs from the novice group and two pairs from the expert group. The years of experience for teachers with novices ranged from 2.5 years to 16 years and from 3.5 years to 12 years for the teachers with experts. Thus, it appears that

professional status (i.e., novice/expert) and years of teaching experience did not influence psychologist verbalizations.

Table 6

Gender, Years of Experience, Total Verbalizations for a Pair, and Percentage of Psychologist Verbalizations

	Gender	Years of Experience	Utterances	Total Utterances	Percentage Psychologist Verbalizations
Expert #1	Female	7+	278	373	74
Teacher	Female	10	95		
Expert #2	Female	7+	231	288	80
Teacher	Female	7	57		
Expert #3	Female	7+	354	605	59*
Teacher	Female	3.5	251		
Expert #4	Male	7+	157	247	64
Teacher	Female	12	90		
Expert #5	Male	7+	212	342	62
Teacher	Female	6	130		
Expert #6	Female	7+	183	361	51*
Teacher	Female	8	178		
Novice #7	Female	<1	395	599	66
Teacher	Female	14	204		
Novice #8	Female	<1	131	261	50*
Teacher	Female	16	130		
Novice #9	Female	<1	174	240	73
Teacher	Female	15	66		
Novice #10	Female	<1	341	493	69
Teacher	Female	2.5	152		
Novice #11	Female	<1	236	301	78
Teacher	Female	7	65		
Novice #12	Female	<1	161	280	58*
Teacher	Female	9	119		

*approaching a 50-50 split for teacher and psychologist

Analyses of 12 Psychologists and 12 Teachers

Source codes.

The 12 transcripts yielded a total of 4, 390 codeable statements. The range of discourse in the transcripts for the psychologist-teacher pairs extends from a total of 240 verbalizations to 605 verbalizations. Psychologists spoke more than teachers in all 12 pairs. Further, in 8 of the 12 pairs, psychologists made about 65% or more of the verbalizations. In the remaining four pairs, it was nearly a 50-50 split for teachers and psychologists. Finally, analyses of the percentages of total verbalizations for 12 psychologists and 12 teachers indicate that psychologists spoke 65% of the time (n=2853), whereas teachers spoke 35% of the time (n=1537).

Content codes.

The percentages were computed for psychologist and teacher verbalizations that fell into each Content Subcategory (see Table 7). Percentages were calculated for psychologists and teachers separately. Psychologist percentages were derived by dividing the number of psychologist utterances per subcategory by the total number of psychologist utterances for the Content Category (n=2853). Percentages for teachers were calculated in a similar manner, utilizing their total number of verbalizations for the Content Category (n=1537). Since there were no psychologist or teacher verbalizations in the Observation Subcategory, this code was dropped from the analyses.

The results indicated that both psychologists and teachers utilized the Background Environment (psychologists 11%; teachers 17%), Behavior (psychologist 18%; teachers 24%), Individual Characteristics (psychologists 11%; teachers 12%), and Test Results (psychologists 22%; teachers 12%) subcategories most frequently and to the relative exclusion of the other

Content codes. In addition, psychologists frequently utilized the Test Description subcategory (psychologists 19%) in their conversations with teachers. These data show that both psychologists and teachers made statements about the child's background/family dynamics, behavior, and individual characteristics and related these variables related to the child's academic difficulties. However, analysis of the frequency data indicates that psychologists evidenced more of these statements than teachers. Consequently, hypothesis 1 is supported by the frequency data.

Data from the Content Codes also show that psychologists made a small, but important, number of statements in the Process Overt Subcategory (n=66). These findings show that psychologists provided teachers with a structure for the meeting to ensure that the important issues would be addressed. The data also show that psychologists made more of these statements (n=66) than teachers (n=9). Thus, hypothesis 3 is accepted.

Finally, the frequency data from the Plan Subcategory indicates that psychologists offered suggestions to teachers regarding how to address the child's learning problems in the classroom. In addition, the frequency data show that psychologists made more of these statements (n=201) than teachers (n=142). Consequently, hypothesis 5 is supported by the frequency data.

Table 7

Frequencies and Percentages of Verbalizations for Psychologist and Teacher on CAR-R Content Subcategories

	Psychologists		Teachers	
Content Subcategories	Frequencies	Percentages	Frequencies	Percentages
Back. Environment	307	11	271	17
Behavior Setting	154	5	131	9
Behavior	509	18	368	24
Indiv. Charact.	324	11	191	12
Plan	201	7	142	9
Process. Overt	66	2	9	1
Test Description	530	19	154	10
Test Results	630	22	177	12
Other	132	5	94	6
Total	2853	100	1537	100

Process codes.

The percentages were computed for psychologist and teacher verbalizations that fell into each Process Subcategory (see Table 8). Again, percentages were calculated separately for psychologists and teachers in the manner described above. The results indicated that the Specification Subcategory was the most frequently utilized code by both groups (psychologists 88%; teachers 52%), though psychologists made more Specification statements than teachers. This finding suggests that although both groups described, explained, and elaborated upon their thoughts about the child and his or her academic difficulties, psychologists spent much more time than teachers describing their impressions of the child's learning difficulties. Furthermore, when the psychologists' Specification data are combined with their data from the Test Description (psychologists 19%) and Test Results (psychologists 22%) Subcategories (Content Codes), it is evident that psychologists went to great lengths to describe their assessment findings and their relationship to the child's academic problems. Indeed, the fact that

teachers utilized the Positive Validation Subcategory (41%) more frequently than psychologists (7%), suggests that teachers spent a significant portion of their time indicating comprehension of and agreement with psychologists' statements. Taken together, these finding offer support for hypothesis 4, which states that psychologists will assume sole responsibility for explaining their assessment results to teachers.

Table 8

Frequencies and Percentages of Verbalizations for Psychologist and Teacher on CAR-R Process Subcategories

	Psychologists		Teachers	
Process Subcategories	Frequencies	Percentages	Frequencies	Percentages
Neg. Evaluation	2	.3	11	.8
Pos. Evaluation	24	.9	42	3
Inference	90	3	37	2
Specification	2520	88	807	52
Summary	13	.5	2	.4
Neg. Validation	2	.3	11	.8
Pos. Validation	202	7	626	41
Total	2853	100	1537	100

Data from the Process codes also show that both groups made more Positive Validation statements (psychologists 7%; teachers 41%) than Negative Validation statements (psychologists .3%; teachers .8%). This finding suggests that both psychologists and teachers encouraged each other to share their ideas about the child and that both groups offered supportive statements to each other as they shared their views (e.g., "Yes, I see."). In other words, the meetings had a positive tone, which, in turn, fostered the development of a positive working relationship between the professionals. Further, teachers made more of these statements than psychologists. Thus, hypothesis 2 is supported.

Control codes.

Finally, the percentages were calculated for the psychologist and teacher Control Code verbalizations (see Table 9). Percentages were calculated separately for each group. Results indicated that both groups made more comments in the Emitter Subcategory (psychologist 98%; teacher 96%) than in the Elicitor Subcategory (psychologist 2%; teacher 4%). This finding indicates that both teachers and psychologists spent most of the time describing their impressions of the child and elaborating upon their partner's ideas; they used only a small percentage of time to ask questions of their partners.

Table 9

Frequencies and Percentages of Verbalizations for Psychologist and Teacher on CAR-R Control Subcategories

	Psychologists		Teachers	
Control Subcategories	Frequencies	Percentages	Frequencies	Percentages
Elicitor	58	2	57	4
Emitter	2794	98	1480	96
Total	2853	100	1537	100

Analyses of 6 Experts and 6 Novices:

Patterns across Thirds of Session

In this section, the data for experts and novices were divided into thirds and then descriptive analyses were calculated for both groups. This procedure allowed for a section by section analysis of the communicational behavior of the expert and novice dyads. Within each section, only a few subcategories revealed differences between the two groups of participants. Thus, the data will be presented in an abbreviated fashion, highlighting only those subcategories in which differences between experts and novices were observed. As shown in Tables 10, 11, and 12, the pattern of dialogue for the first two-thirds of the session is fairly consistent for both experts and novices.

However, this pattern shifts in the final third of the session for novices, as they dynamic shifts between the teachers and novices.

In the first-third of the session, data from the Content Category showed that experts made more statements in the Process Overt Subcategory (n=29) than novices (n=19) (see Table 10). This small but important difference demonstrates that experts spent more time than novices outlining for consultees how the meeting would proceed. For instance, experts typically began by describing the order in which they would present their findings (e.g., IQ test, visual-motor tests, and then projective tests) and then encouraged teachers to ask questions when needed. In contrast, novices typically stated that they would review their assessment data with the teacher and then began presenting their findings to teachers.

Table 10

First Third of Session: Frequencies and Percentages of Verbalizations for Experts and Novices in Content and Process Subcategories of CAR-R

	Experts				Novices			
CAR	Psychologist		Teacher		Psychologist		Teacher	
Categories	N	%	N	%	N	%	N	%
Content Category								
Process Overt	29	6	4	.02	19	3	2	.01
Process Category								
Specification	480	92	113	52	478	92	82	40
Pos. Validation	26	5	94	43	32	6	120	58

In addition, data from Process Category of this section indicates that teachers with experts offered more Specification statements (52%) than teachers with novices (40%) (see Table 10). Similarly, teachers with experts made less Positive Validation statements (43%) than teachers with novices (58%). These numbers suggest that teachers with experts, as compared to teachers with novices, were more actively involved in the conversation. That

is, teachers with experts spent proportionally more time (52%) describing their impressions of the child than they did indicating agreement with the psychologist (43%). Teachers with novices, in contrast, spent the most of their time indicating agreement with the psychologist (58%) and much less time describing their sense of the child's difficulties (40%).

In the second-third of the interview, data from the Process Category shows that teachers with experts were, again, much more involved in their conversations with psychologists than teachers with novices (see Table 11). This result is best illustrated by the percentage of statements in the Positive Validation Subcategory (teachers/experts 39%; teachers/novices 54%). In addition, data from the Content Category shows that novices made more Behavior Statements (24%) than experts (15%) and that experts made more Test Results statements (30%) than novices (21%). These results suggest that experts embedded their comments about the child's behavior within their statements about the child's test performance. That is, experts seemed to view the child's behavior and test results as interrelated entities. At least, this is how they conveyed their findings to teachers. Novices, in contrast, tended to describe the child's test results and behavior separately. Thus, they did not emphasize the inter-relatedness of these two entities to teachers.

Table 11

Second Third of Session: Frequencies and Percentages of Verbalizations for Experts and Novices in Content and Process Subcategories

	Experts				Novices			
CAR	Psychologist		Teacher		Psychologist		Teacher	
Categories	N	%	N	%	N	%	N	%
Content Category								
Behavior	77	15	63	27	127	24	59	29
Test Results	151	30	38	16	111	21	29	14
Process Category								
Pos. Validation	22	4	93	39	27	5	110	54

In the final third of the session, the Process Category shows that novices made more Positive Validation statements (17%) than experts (7%) (see Table 12). This result indicates that novices were now less active in making statements in the conversation than they had been previously (6%, 5%, and 17% respectively) and that they were less active participants than experts at this final stage of the meeting. Interestingly, teachers with novices utilized proportionally fewer Positive Validation comments at this stage (58%, 54%, and 32% respectively), though their use of such comments were commensurate with those of teachers with experts (30%). Thus, teachers with novices, not the novices themselves, were now more involved in the conversation than they had been before. The use of Positive Validations statements for teachers with experts and teachers with novices over the thirds of session are depicted in Table 13 and Figure 1. Figure 1 shows the decrease in Positive Validation statements for teachers with novices over thirds of sessions, as compared to teachers with experts.

One last finding in this section pertains to the Content Category and, specifically, the use of Plan Subcategory Codes. During this final segment of the meeting, experts made more Plan statements (25%) than novices (16%),

indicating that they offered more educational interventions to teachers than novices.

Table 12

Final Third of Session: Frequencies and Percentages of Verbalizations for Experts and Novices in Content and Process Subcategories

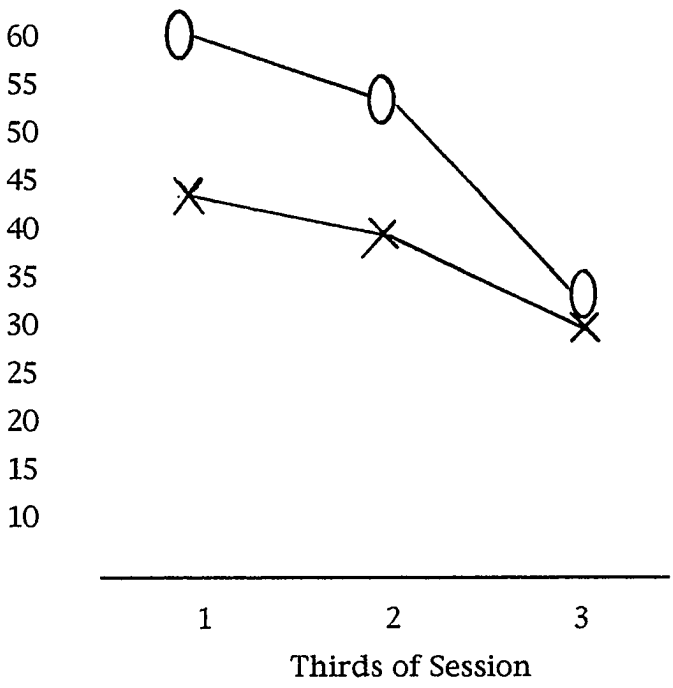
	Experts				Novices			
CAR	Psychologist		Teacher		Psychologist		Teacher	
Categories	N	%	N	%	N	%	N	%
Content Category								
Plan	101	26	76	22	67	17	52	16
Process Category								
Pos. Validation	29	7	105	30	66	17	104	32

Table 13

Percentages of Positive Validation Statements for Teachers with Experts and Teachers with Novices over Thirds of Sessions

	Thirds of Session		
	First Third	Second Third	Final Third
Teachers with Experts	43	39	30
Teachers with Novices	58	54	32

Figure 1. Percentages of Positive Validation Statements for Teachers with Experts and Teachers with Novices over Thirds of Sessions



X= Teachers with Experts

0= Teachers with Novices

Qualitative Analyses

A series of qualitative analyses were conducted on the 12 transcripts. First, the 6 expert transcripts were examined by this investigator to determine if they met criteria for the expert classification (see Appendices C and D). The 6 novice transcripts were also examined to ensure that they did not meet criteria for the expert designation (see Appendix C and D). These analyses indicated that the 6 expert and 6 novice transcripts met criteria for their respective classifications. In addition to these analyses, an expert in the area of school psychology and consultation examined 2 randomly selected "expert" and 2 similarly selected "novice" transcripts. The expert then rendered her

opinion on the appropriate classification of the transcripts. Her classification of the 4 transcripts was concordant with the classifications of this investigator. However, as mentioned previously, subsequent analyses of the transcripts revealed that two experts (i.e., E#4 and E#6) did not evidence "expert behavior" on their transcripts due to differences in the nature of the case and referral question. Consequently, these experts were not included in the qualitative analyses. One novice (i.e., N#7) evidenced the verbal behavior of a psychologist who was in transition from novice to expert status. That is, she spoke about her own data in a comprehensive and integrated manner. However, she did not link her findings to the classroom, which is a principal characteristic of expert communication. She was not included in the qualitative analyses below, since her verbal behaviors were in between that of novices and experts.

The remaining qualitative analyses involved utilization of the constant-comparative method (Glaser & Strauss, 1967) and the case study approach, both of which will be described later in greater detail. The results in this section are organized around three main themes. First, the general protocols for school-based consultation and assessment are described. These protocols provide a broad overview of the various steps involved in the process of consultation and assessment. Individual protocols were developed for experts and novices (see Figures 2 and 3), and the significance of each protocol is reviewed. Second, the Pattern of Expert Communication Behavior in Consultation and Assessment (see Appendix G) and a Cognitive Model of Consultative and Assessment Explanations of Experts (see Appendix H) are presented. The patterns and cognitive model are extensions of the Provisional Protocols of Expert Behavior (see Appendixes C & D) developed from a previous data set (Rolih, 2001). They afford a closer examination of the communication

behaviors of experts, as they describe their assessment results to the teachers of a referred child. Finally, four major findings from the case study analyses of expert and novice transcripts are discussed. These analyses provide detailed descriptions of the principal differences that emerge when the communication patterns of experts and novices are compared.

General Protocols for School-Based Consultation and Assessment

General protocols for consultation and assessment (see Figures 2 and 3) were developed for novices and experts in accordance with the constant-comparative method. This method combines the procedure of coding data into categories with the procedure of inspecting the data so that existing categories are refined as new properties emerge (Glaser & Strauss, 1967). The general protocols delineate the various steps undertaken by experts and novices during the assessment of a child referred for academic underachievement. In addition, the protocols highlight the focus of analysis for the current study, which is the communication behavior of psychologists during post-assessment meetings with teachers. The purpose of such meetings is for psychologists to discuss with teachers their assessment results and recommendations for the referred child. Since the protocols were developed mainly to provide the reader with a focal point for the unit of analysis of the current study, only general descriptions of behavior are discussed in this section. More detailed descriptions of behavior are presented in subsequent sections.

As depicted in Figures 2 and 3, experts and novices differ in the manner in which they conduct and follow-up with their evaluations of children. These differences are denoted by squares on Figures 2 and 3. The major difference pertains to the way in which novices and experts develop their clinical impressions of and recommendations for children. Novices formulate their clinical impressions and interventions in conjunction with their

supervisors, as noted by novices during informal conversations with this researcher. They then present their findings and recommendations to the teacher during the post-assessment meeting. Experts, in contrast, approach the task of developing hypotheses in a different manner. They formulate tentative hypotheses after evaluating the child and after speaking with other professionals who have either evaluated or worked closely with the child. They then meet with the teacher to explain their results and to seek confirmatory evidence for their impressions. If their impressions are not confirmed, they refine their ideas. Furthermore, experts develop interventions for children in collaboration with teachers during the post-assessment meeting, whereas novices develop interventions with their supervisors prior to the post-assessment meeting. Finally, there were differences with respect to the types of services recommended for children. The majority of experts emphasized classroom interventions over special services (e.g., resource room), which require that the child be removed from the classroom. In contrast, the majority of novices emphasized special services for the child and frequently did so in lieu of classroom interventions. Specific examples are given in a subsequent section.

Figure 2. General Protocol for Assessment in Schools: Expert Model

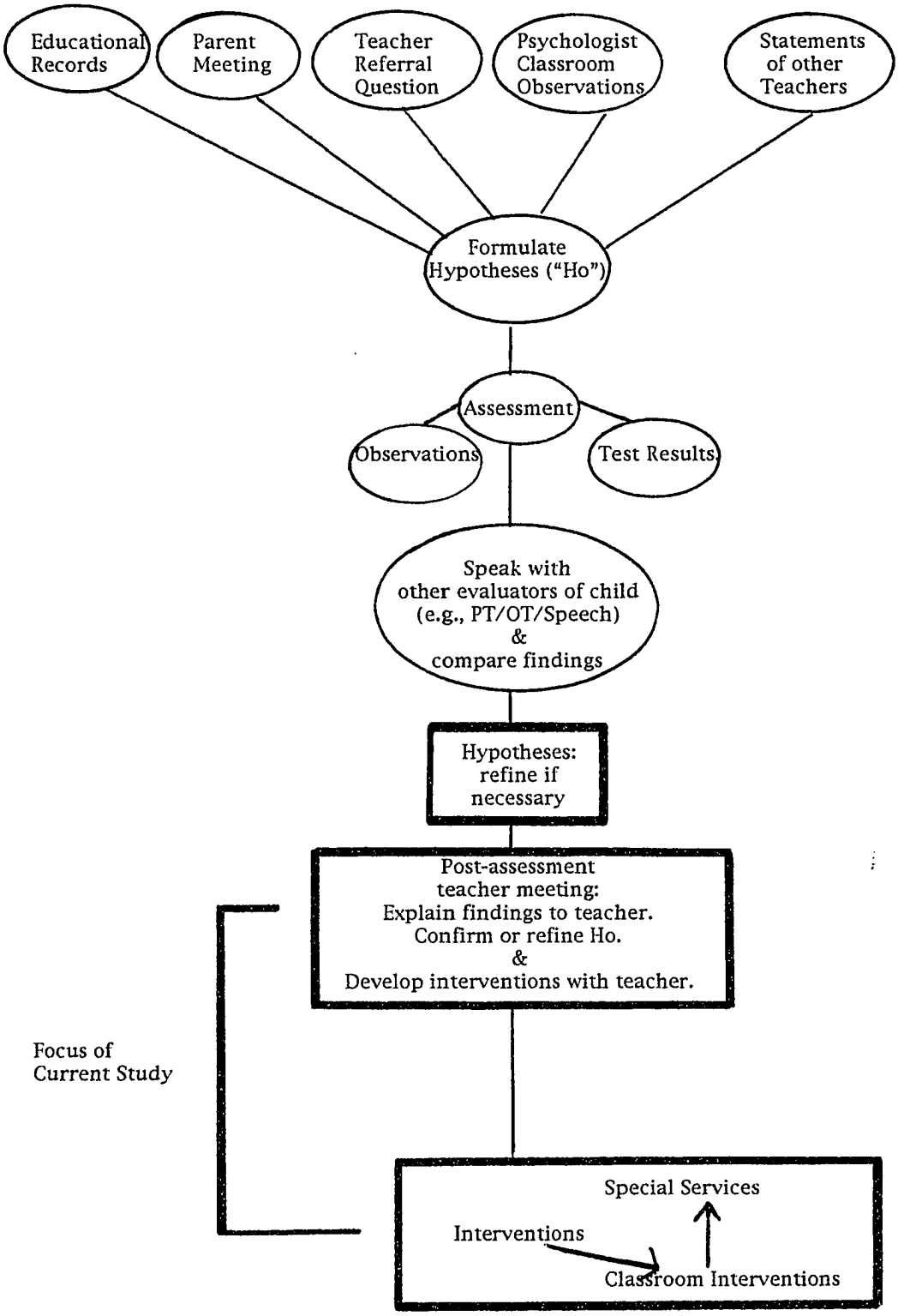
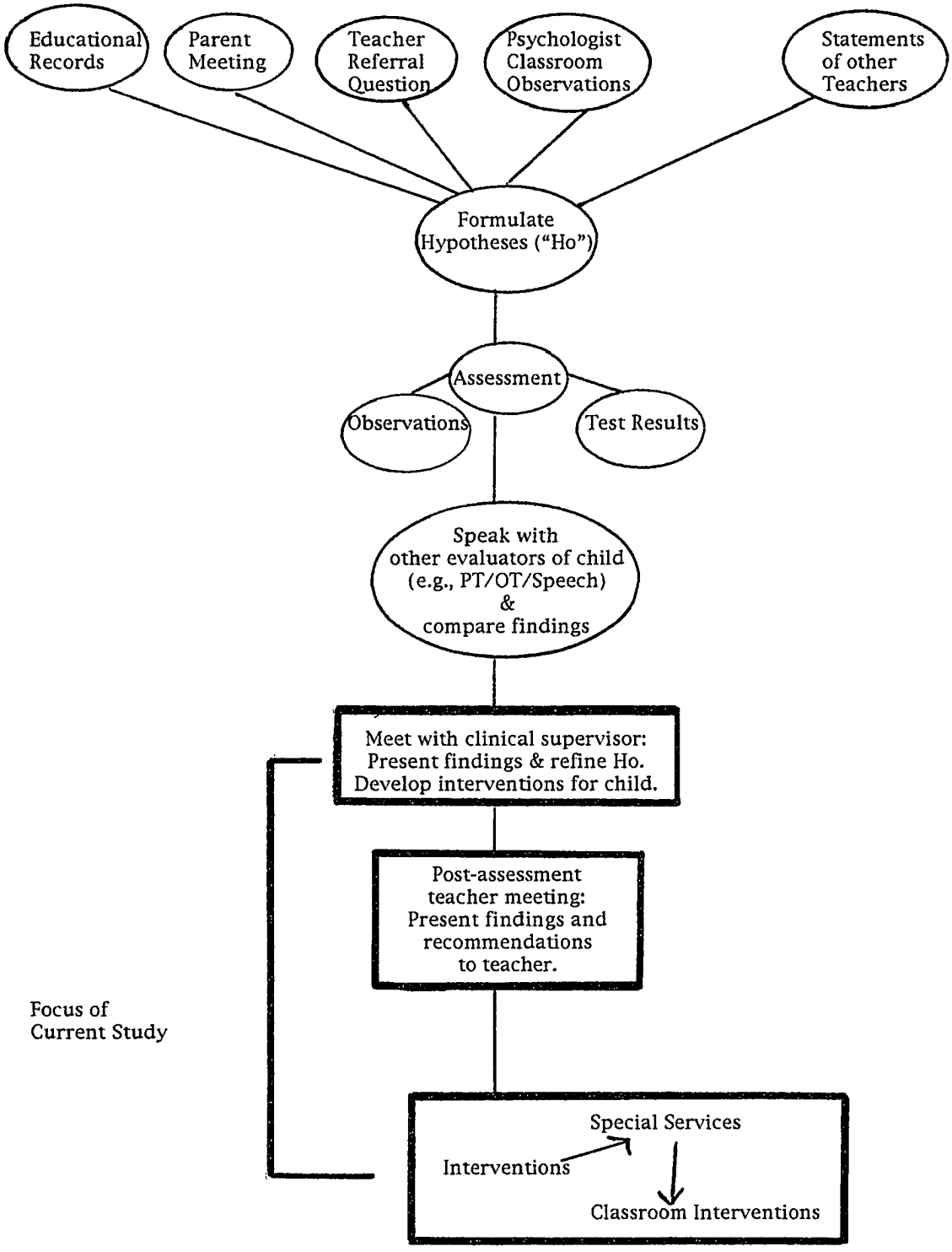


Figure 3. General Protocol for Assessment in the Schools: Novice Model



There are obvious differences in experience and, thus, expected protocol for conducting assessments between the two groups. Most notably, novices are, by definition, psychologists in-training. Consequently, they are expected to work in tandem with their clinical supervisors throughout the assessment process. This expectation is especially true as novices formulate their hypotheses concerning the child's strengths and limitations, and as they develop remedial interventions for the child. In contrast, experts are, by definition, experienced evaluators of children. Thus, they can formulate their impressions of and interventions for children based on greater knowledge and experience.

Indeed, as suggested above, the distinctive behavioral patterns of experts and novices clearly represent two ends of the professional development spectrum for psychologists, with novice psychologists on one end of the spectrum and expert psychologists on the other. However, closer examination of the protocols suggests that these disparate behavioral patterns may have more profound implications for the types of psychological services recommended for children. Indeed, as shown in Figures 2 and 3, the nature of services recommended for children tends to differ with respect to the experience level of the psychologist. That is, experienced psychologists tend to emphasize classroom interventions over special services (e.g., resource room), whereas novices tend to recommend special services in lieu of classroom interventions. In the sections below, the verbal behavior of experts and novices are inspected more closely. In addition, the potential implications of the differences in behavior are discussed, particularly those that relate to the validity and utility of assessment data, and nature of psychological services that are recommended for children.

Patterns of Expert Communication Behavior in the Context of Consultation and Assessment and a Cognitive Model of Consultative and Assessment Explanations of Experts

This section introduces the *Patterns of Expert Communication Behavior in the Context of Consultation and Assessment* and a *Cognitive Model of Consultative and Assessment Explanations of Experts* (see Appendixes G & H), which were developed via the constant-comparative method (Glaser & Strauss, 1967). Previously collected data (Rolih, 2001) were compiled and arranged into as many broad categories as possible. These categories were inspected and later refined by systematically allocating smaller units of data to the most appropriate category. This process continued until the categories reflected properties that were integrated, consistent, plausible, and close to the data (Glaser & Strauss, 1967). The result of this effort was the establishment of the Provisional Criteria for Expert Behavior (see Appendix C) and the Provisional Criteria for Complete Explanations by Experts (see Appendix D). The procedures just described were repeated, again, in reviewing the data for this study. Thus, the categories from the provisional protocols were inspected and refined so that they more closely reflected the properties that emerged from the current data. These procedures culminated with the formation of the Patterns of Expert Communication Behavior in the Context of Consultation and Assessment (see Appendix G) and a Cognitive Model for Consultative and Assessment Explanations of Experts (see Appendix H). The expert models are discussed in detail below. Attention is given to the verbal data that best exemplifies the central properties underlying each category. Comparisons with the verbal behavior of novices will be made in the fourth and final section of this chapter.

Patterns of Expert Communication Behavior in the Context of Consultation and Assessment

Five principal categories comprise the Patterns of Expert Communication Behavior in the Context of Consultation Assessment (see Appendix G), including (1) provide the teacher with an outline of the meeting, (2) review the referral question, (3) review findings from the evaluation, (4) summarize the 2-to-3 major findings and develop recommendations for the child, and (5) offer a concluding comment. This model delineates sequentially the major topics that these experienced psychologists addressed when debriefing teachers about their assessment results. All categories reflect the communicational behavior of the four experts. That is, the categories were either modified or dropped if the experts did not provide statements that coincided with the main properties of a given category.

Experts begin the post-assessment meeting by briefly orienting teachers as to what will be discussed during the session. During this time, experts also explain what the teacher's role would be during the meeting, which is to ask questions when explanations are unclear. For instance, E#1 remarked,

> "We are going to go over Greg's evaluation, and what I will do is what we always do. I will go over the tools first and then we will see what the results are. Then I can see how he is doing in class or how he has done this year in class. And we will get an idea, actually, for next year, how to help the teachers get an idea of where he is at."

Although this expert did not invite the teacher to ask questions when statements were unclear, other experts typically did so. For example, E#3 stated,

> "I don't know because we haven't met before how familiar you are with any of these instruments. If something is not clear, just tell me."

The second topic discussed by experts concerned the reason the child was referred for an evaluation with the psychologist. During this segment, experts either restate the referral question themselves or ask the teacher to restate the reason for seeking a psychoeducational evaluation. Much like the introductory comments above, these statements are very brief. Experts #6 and #2 respectively offer good examples of directing the teacher to restate the reason for referral:

> "Tell me your concerns and what you have seen in class."
>
> "But first I want to review what your concerns were and why you thought we could do a screening with him."

The third topic involves the experts' review of the evaluation results with teachers. This segment is arguably the most important part of the meeting because it is when teachers and psychologists work together to develop a comprehensive understanding of the child's academic problems. During this time, experts present their assessment results, test by test, noting important findings (i.e., significant subtest/factor scores) within each test. Experts also routinely bring teachers into their conversations. This practice is done to hear the teacher's perspectives on why the child is underachieving academically, which, in turn, allows psychologists to examine the degree to which their results generalized to the classroom. Since Appendix H is primarily concerned with the *Consultative and Assessment Explanations of Experts*, specific examples of expert verbal behavior will be presented in that section.

Fourth, experts summarize the 2-to-3 main findings from their evaluation and develop, with teachers, interventions for the child. The practice of summarizing findings may occur in one of two ways. Psychologists may note and then periodically restate the important findings as they present

their assessment results. In addition, as they comment upon the important findings, psychologists discuss, with teachers, recommendations related to that particular issue. Alternatively, psychologists may present their assessment results test by test, noting important issues arising from each instrument. Then, towards the end of the meeting, they summarize the main findings and develop recommendations with the teacher. Nevertheless, irrespective of the manner in which the main findings are recapitulated, all experts highlight and emphasize the 2-to-3 critical findings at some point during the session. For example, after discussing a major learning problem gleaned from his evaluation, E#5 recommended resource room for a child. He then recapitulated his main findings:

> Psychologist, "She seems like a kid who will profit from the resource room." Teacher, "Yes." Psychologist, "You know, it's not going to be a band-aid for her." Teacher, "No." Psychologist, "She's probably going to see some good results." Teacher, "Yes, she needs the repetition."
>
> Psychologist, "That's about it really. You'll get some of -- variations of the themes that I started here with Louise, who is going to give you part II.* A little different wrinkles as far as the types of things she was assessing, but the overall picture in terms of the short-term, long-term memory being suspect, in terms of the more abstract reasoning and inferential skills being relatively weak and the processing, rote processing, being her strength. That's pretty consistent with Louise's testing."

*This statement refers to the educational evaluation and achievement test results.

As noted above, experts also develop educational interventions with teachers during this segment of the meeting. Thus, experts explore what, if any, interventions have been tried in the past and clarify which interventions have been successful and which have not. They also ask teachers to indicate whether or not they would be willing to try a particular intervention and then suggest alternative interventions after teachers indicate disapproval for a particular approach.

For example, E#3 developed a classroom intervention with a teacher who referred a child for attentional difficulties. During this session, the expert examined what the teacher was currently doing in the classroom as well as the teacher's perception of the intervention's efficacy. She then worked with the teacher in designing an intervention that was tailored to the individual needs of the child and the teacher. That is, the expert developed an intervention that was both acceptable to the teacher and likely to improve the child's attentional capabilities in class:

> Psychologist, "The other thing I wanted to talk to you about, because I know you do it in your class, is you do behavior management. I was wondering if it would help to tailor it more specifically for attention. And we could work on that." Teacher, "I can do that." Psychologist, "I know you seem pretty confident, but if you needed help, because sometimes you can improve a kid's attention..." Teacher, "Right." Psychologist, "or work completion. He might need a tighter one." Teacher, "Tighter one." Psychologist, "If you're doing one with your whole class, and that has proven to improve kids' attention." Teacher, "Okay. Try like a special thing?" Psychologist, "Yeah." Teacher, "But I don't want to make it publicly known or anything. I'll probably do something quietly off to the side." Psychologist, "There are lots of different ways you know if he is working, completing..." Teacher, "Sure." Psychologist, "these two problems -- to reward work. That might improve or increase his on-task behavior. I think it might be worth a shot, because I know what you do in the class is going to be just too long for him." Teacher, "I know. I think he needs more immediate also. Okay, I actually do it for another kid too. In the beginning I did immediate, I did the stars and the stamps on the desk, I mean, and now I am starting to wean that out." Psychologist, "Most of your class doesn't need that." Teacher, "Right. More than half of my class doesn't need that. And so now we went straight to the certificates. I really did it for two kids in the class, and now one of them doesn't need it anymore, but the other does, this one. You know what I'm trying to say?" Psychologist, "Right." Teacher, "So in other words, 'Rick' I guess can benefit from it, so can this other kid that I have in my mind, but the rest of the class really doesn't need it." Psychologist, "So you don't have to do it for them." Teacher, "Exactly, exactly."

Finally, experts offer a closing comment to indicate the end of the meeting. As they conclude the meeting, experts generally refer back to the referral question and address which issues have been resolved and which

issues require further inquiry. These comments are usually brief and uncomplicated, such as the statement made by E#2:

> "Generally, I think his skills are kindergarten level, he's ready... Well, at least it sets your mind at ease about some other concerns about him, whether he was ready for kindergarten or not."

In summary, this section presented the *Pattern of Expert Communication Behavior in the Context of Consultation and Assessment*, which offered a sequential outline of the main elements of the post-assessment teacher meeting. During this meeting, experts reviewed the referral question(s), presented and then summarized the 2-to-3 major findings, and offered closing statements to teachers. In addition, experts developed interventions with teachers that were tailored to the individual needs of the teacher and the child. In the next section, a *Cognitive Model for Consultative and Assessment Explanations of Experts* is discussed. This model extends a few of the ideas presented above, particularly those relating to experts' ability to identify significant learning problems and to explain the significance of those problems to teachers.

Cognitive Model of Consultative and Assessment Explanations of Experts

As noted in the previous section, the *Cognitive Model of Consultative and Assessment Explanations of Experts* (see Appendix H) is an extension of the *Provisional Criteria for Complete Explanations by Experts* (see Appendix D). Five categories comprise the model, including test overview, comment on noteworthy subtests, links to classroom, implications for child/test interpretations, and interventions. All five categories were developed in a manner identical to that of the *Patterns of Expert Communicational Behavior in the Context of Consultation and Assessment* (see Appendix G). That is, the categories were developed to reflect the communication behavior of the four

experts. Categories that did not reflect the verbal behavior of the experts were either modified or dropped. The protocol highlights the main components of a consultative and assessment explanation, the purpose of which is to explain to teachers the educational significance and possible implications of a child's performance on a particular subtest. In this section, only a general overview of complete explanations is provided. More elaborate analyses of expert explanations are presented in the next section, where the explanations of experts and novices are compared.

Overview of cognitive model.

Although consultative explanations have five essential components, they, in fact, reflect two critical domains of school-based assessment: The child's performance on a significant subtest/test during the evaluation and the child's academic performance and/or behavior in the classroom. Consultative explanations began with experts providing an overview of the test from which the important findings were obtained. For instance, if a significant result was observed on the Wechsler Intelligence Scale for Children, Third Edition (WISC-III), the psychologist would begin by briefly describing the structure of this intelligence test. For instance, expert #3 remarked,

> "The IQ test is really divided into two areas. It measures verbal skills, things like information, background information, give him two words and he has to tell me how they are the same. And there is also a number of tasks that measure non-verbal. It's more perceptually based. You might have to put puzzles together. Teacher, "Spatial issues." Psychologist, "Right, spatial, some visual motor. And sometimes you look because sometimes kids are uneven." Teacher, "Right."

Description of significant subtests.

Second, experts commented upon what they observed as the child negotiated the various items comprising the significant subtest. They may begin by explaining what the subtest requires the child to do and then describe the

cognitive facilities the subtest measures. For instance, when discussing the results of the Early Screening Profile - Verbal Concepts Subtest with a teacher, Expert #2 described what the test measured and provided specific examples of the child's behavior on several items of the subtest:

> Psychologist, "So in terms of Verbal Concepts, he was asked to either show me something from a picture, and I'll show you some of the pictures that I gave him. He was asked to show me something, which means he can point to it and identify it, or he's asked to say it, so he has the words." Teacher, "Okay, so he can do either or?" Psychologist, "Right. Henry was four eleven when I tested him. Here, for example, it says, 'Show me a drum,' and he just has to point to it; so that is like receptive vocabulary - is he understanding what I'm asking him to do, and 'Show me a bird,' and he was able to do that." Teacher, "Okay." Psychologist, "'Show me an elephant,' and he's able to do that."

Next, experts typically comment upon the child's score and note whether the finding is consistent with other subtests tapping similar skills. For instance, when describing the child's uneven performance on the Math Computation and Math Reasoning subtests of the Wechsler Individual Achievement Test, E#5 remarked,

> "Now in math, his score was also average but uneven. Like his math reasoning skills, when I would give him problems, he would have to answer them - he was okay. He actually scored in the 63rd percentile. Where he fell down was in computation. I don't know if he can do more than this, but all he did - he attempted these problems. These are very easy, but he did these three." Teacher, "Um-hmm." Psychologist, "And he did this and this. These he got wrong because he was inattentive to the sign, he probably just added that. And then he, you know, I asked him, you know, can you do any of this - like, have they learned that?" Teacher, "Oh yeah." Psychologist, "He didn't even attempt." Teacher, "Well this for sure. We really didn't do the subtraction yet, going vertical like that though. This he might have, three add-inns, four add-inns maybe. Definitely this, he should have done this with no problem. Psychologist, but he didn't. You know, again, I wonder how well he looked at this whole things and said, you know, 'I can't do this.' But he, see his math computation was at the 21st percentile, but his math reasoning was at the 63rd. And, again, I think this is partly because he is bright. He can reason mathematically. Also, sometimes kids with attention problems don't do well in computation because it take a lot more energy and its boring." Teacher, Um-hmm." Psychologist, "So in that respect, what we see here in reading, comprehension, calculation, but overall these scores are not terrible." Teacher, "Right."

In addition, as shown above, experts frequently comment about the child's behavior during the subtest, noting where the child was successful and less so. But experts also describe how they responded to the child when he or she experienced difficulty on a particular item. For example, E#5 described how the child experienced difficulty on the Comprehension Subtest of the WISC-III, and how he responded to the child during that subtest.

> Psychologist, "Some of the problems with similar language processing I think affect her in certain ways. 'What would you do if you lose a ball that belongs to one of your friends?' [Examinee], "You return it." Psychologist, "She's lost already." Teacher, "Right." Psychologist, "So I asked her a question. 'Tell me more about that.' 'You lose a ball that belongs to one of your friends, what should you do?' I can't even read my own writing here. [Examinee], "Leave it out in the yard." Psychologist, "Leave it out in the something. It didn't give her any points. She missed the purpose of the question. She missed the point." Teacher, "So it was..." Psychologist, "There's some language processing..." Teacher, "Yes." Psychologist, "Some of the harder items, the last one that she got credit for, she got partial credit for. 'Why do we have to put stamps on letters?' [Examinee], "Well, that's how much they cost." Psychologist, "I asked her for more information at that point." Teacher, "Hmm." Psychologist [as child], "So it can go from one place to another." Teacher, "Right." Psychologist, "Which is not bad. But she missed some easier items too. So a low-average overall on that."

Relation of assessment results to classroom.

Third, after experts describe the child's performance on the subtest, experts and teachers discuss how the important finding relates to the child's academic performance and/or behavior in the classroom. This conversation can begin in one of two ways. Experts may initiate this conversation or teachers may begin the discussion by remarking that they have observed similar patterns in the classroom. In either event, it is important to note that all experts eventually relate their results to the child's classroom performance, though they vary in the degree to which they elaborate (or encourage teachers to elaborate) about this connection. Thus, it seems the purpose of this discussion is to attempt to extend (i.e., generalize) the expert's findings to the classroom. For example, E#5 described in moderate detail the

possible relationship between a significant assessment result (i.e., Block Design of WISC-III) and the referred child's apparent deftness in a specific academic area (i.e., art). Note that even though this is a brief explanation concerning the association between a test score and classroom performance, this expert still managed to establish a connection between these two seemingly disparate variables. In this example, the expert remarked that the child obtained a relatively low score on a subtest measuring visual-spatial skills, and that this score was lower than what he would have expected, given the child's apparent artistic capabilities:

> Psychologist, "The block design is basically a pretty strictly visual spatial type of skill. I would have expected her to do a little better. I mean, she showed me the art work she does." Teacher, "Yeah." Psychologist, "It is very symmetrical and very orderly, very visually cohesive." Teacher, "Right." Psychologist, "It is pretty impressive really. It looks like a much older kid." Teacher, "She is very artistic. But that..." Psychologist, "But that was average." Teacher, "Okay." Psychologist, "It wasn't super high."

Educational implications for the child.

The fourth component of the consultative explanation involves the psychologist discussing the educational implications for the child (i.e., interpretations of the test data). The aim of this discussion is to explain the significance of the test results and the child's classroom behavior/achievement in terms of the child's educational potential and possible need for assistance. This conversation can be brief or elaborate, depending on where this conversation takes place during the meeting. For example, E#3 evaluated a child referred for a suspected learning disability and to determine whether the child had ADHD. During the course of the evaluation, the expert learned that the child's home environment was often "stressful" and she apparently thought that this stress might be contributing to the child's "inattentive" behavior in school. Thus, she felt that more

information was needed before rendering an ADHD diagnosis, even though she and the teacher acknowledged observing ADHD-like symptoms in the child. The expert also concluded that the child was not learning disabled, despite the teacher's observations that the child was struggling to keep up with his classwork and the expert's own findings that the child was performing below expectations in mathematics. Below is the expert's explanation to the teacher concerning her thoughts about the appropriateness of ADHD and LD diagnoses for the child. This is an extensive discussion, as it occurred towards the end of the meeting, when the assessment results were being integrated by the psychologist:

> Psychologist: "I'm not saying that he isn't struggling." Teacher, "Right." Psychologist, "I just don't think that he fits the profile of what we would call learning disabled." Teacher, "Right." Psychologist, "The thing that stands out most, which runs across your ratings and my testing, is his inattention." Teacher, "Right." Psychologist, "I didn't have to work hard with him. He was focused, but the fact that when I mentioned to you that the arithmetic was so depressed, the calculations, your ratings, so I wonder what is going on. Sometimes inattention can be due to emotional stress. You know when his grandparents came in and talked about the family..." Teacher, "Umm, um-hmm." Psychologist, "environment, which seems pretty atypical and pretty stressful." Teacher, "Sure." Psychologist, "I want to get more information on that. I am going to draw the grandmother in and try to get that." Teacher, "Sure."

In contrast, sometimes the psychologist's interpretations of test scores can be rather brief, especially when they occur early on in the meeting. For example, expert #1 began to convey her impressions of the child's academic potential as soon as she was able to discern patterns in the test data. Below, she explains the educational import of the child's score on the Verbal Scale of the WISC-III:

> "So, his overall verbal was 92, which is well within the average range, given, you know, if you are looking at an interval, confidence interval, anywhere between 86-99. So it is low average to average, so 30th percentile." Teacher, "Okay. A little low." Psychologist, "Yeah. So a little lower than the mean. His vocabulary was higher. So you can see that he is an average learner."

The development of interventions.

The final component of a consultative explanation involves psychologists developing, with teachers, educational interventions for the child. This communication behavior was addressed in the prior section and is discussed in even greater detail in the next section, where comparisons between experts and novices are made.

In summary, the five components of a consultative explanation were presented, though it was argued that such explanations are primarily organized around two principal themes: the child during the evaluation and the child in the classroom. Analyses indicate that all experts relayed their important findings to teachers, both in terms of the child's test scores and in terms of the child's behavior during the evaluation. Furthermore, all experts attempted to relate the child's test performance to his or her classroom functioning. That is, experts tended to elaborate about their findings in order to forge meaningful connections between their data and the classroom. In some cases, experts even brought up family issues that might help to explain the child's behavior during school and the evaluation. This practice allowed psychologists to generalize their findings to the classroom and beyond. But it also allowed psychologists to explain their results to teachers in a way that teachers could readily understand. In doing so, psychologists made the child "come alive" during the meeting and may have elicited an empathetic response from the teacher in relation to the child. In the next section, more elaborate analyses of the differences between the verbal behavior and cognition of experts and novices are presented. These analyses elucidate the major differences in communication skill and thought patterns of experienced

and novice school psychologists as they meet with teachers to share their assessment results.

Four Major Findings from the Case-Study Analyses: Comparisons of the Verbal Behavior and Cognition of Experts and Novices

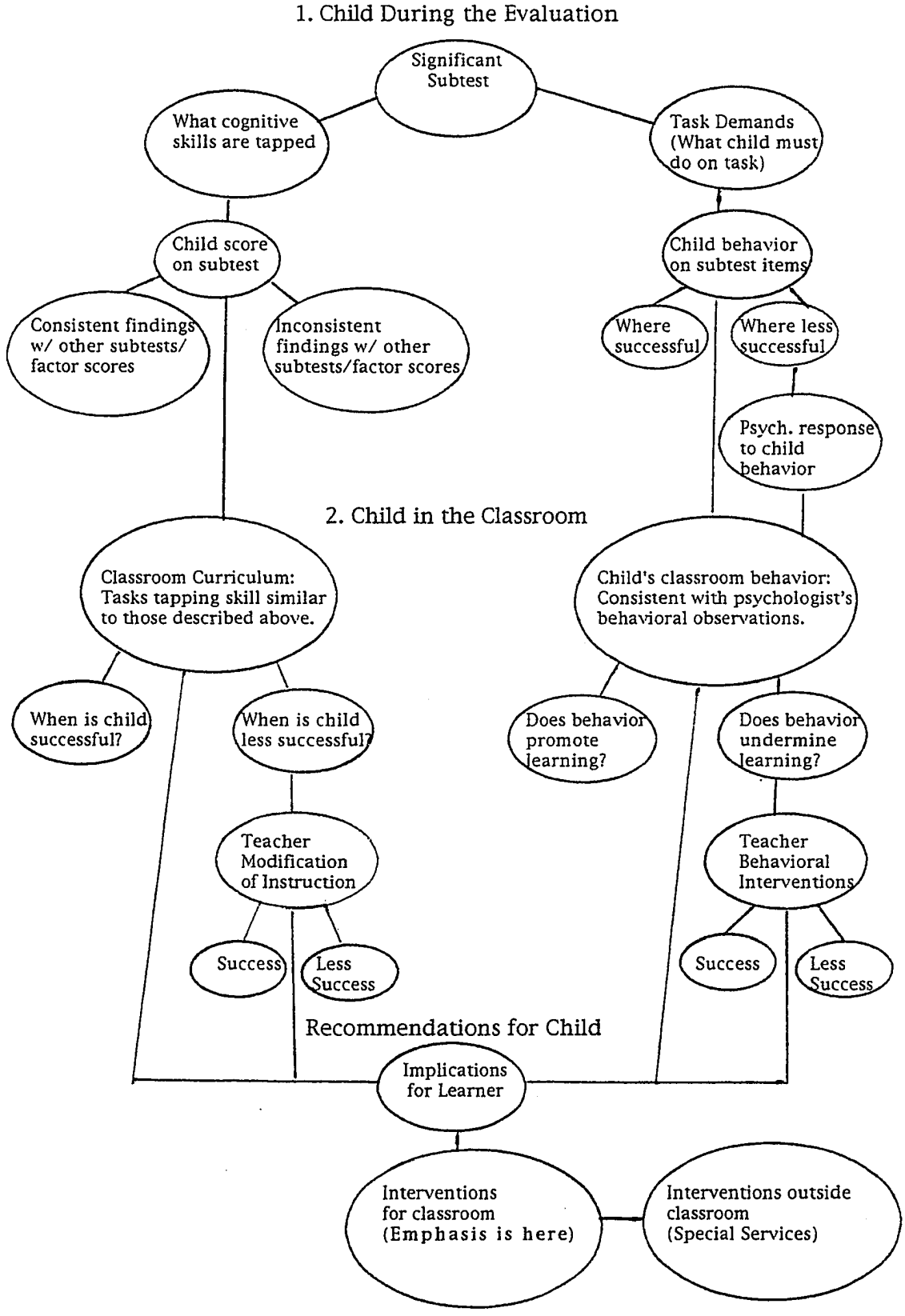
In this section, the four major findings from case study analyses of the expert and novice transcripts are reviewed. These analyses provide detailed descriptions of the principal differences that emerge when the verbal behavior and thought patterns of experienced and novice psychologists are compared. The findings to be discussed include major differences in verbal behavior and cognition between experts and novices in the areas of (1) consultative and assessment explanations, (2) elaborate and integrated knowledge base and the fluent retrieval of relevant knowledge, (3) ability to focus in on 2-to-3 "big ideas" in relation to the child, the teacher's concerns, and the academic goals for the child, and (4) integration of the teacher in the development of classroom interventions and special services. Throughout this section, the analyses of expert verbal behavior and thought patterns are presented first and are followed by the analyses of novice behavior and thought patterns.

The consultative and assessment explanations of experts versus novices.

This analysis concerns the skill with which psychologists describe their assessment results to teachers as well as the degree to which they attempt to extend important findings to the classroom. In short, this section examines the consultative and assessment explanations of psychologists (see Appendix H). As noted earlier, there were two important findings associated with the consultative explanations of experts. First, expert explanations were directed to the two critical domains of school-based assessment: (1) the child's behavior/performance during the evaluation and (2) the child's

behavior/achievement in the classroom and the extent to which it is similar to what was observed during the evaluation. Second, all experts managed to establish a connection between the significant test results and the child's classroom functioning via their discussions with the teacher. But they varied in the extent to which they elaborated (or encouraged teachers to elaborate) about these connections. Figure 4 depicts the underlying variables that comprise the consultative explanations of experts. This figure represents the subtest schema of experts or the different issues that experts explore as they convey significant findings to teachers. The top half of the schema depicts the explanation pertaining to the child's behavior/performance during the evaluation, whereas the bottom half denotes the conversation related to the child's classroom functioning. This analysis begins with a presentation of experts' descriptions of the child's performance during the evaluation. Next, the behavior of experts, as they attempt to generalize their findings of the classroom, is reviewed.

Figure 4. Expert Subtest Schema:
Two Critical Domains and Recommendations for Child



The consultative and assessment explanations of experts:

Child during the assessment.

As shown in Figure 4, there are ten nodes that constitute the top-half of the subtest schema for experts, though the nodes can be grouped in terms of (1) description of the subtest, (2) child behavior during the subtest, and (3) child score on subtest and other similar subtests. Case study analyses of the expert transcripts indicate that all experts provided comprehensive descriptions of subtests to teachers. That is, they explained which cognitive skills a subtest measures as well as described the specific activities that comprise a subtest (i.e., subtest demands). For example, expert #1 evaluated a child referred for academic underachievement and to determine what, if any, support services the child might benefit from in school. In the dialogue below, the expert began to discuss her results from the Picture Arrangement Subtest of the WISC-III. During this particular conversation, she noted how the child scored on the subtest, which skills the subtest taps, and what activities comprise the subtest. Noted in italics are the specific comments that correspond to a node of the subtest schema:

> Psychologist, "But, his weakest score which is really a deficit, almost in the deficit range (*score on subtest*), was Picture Arrangement (*significant subtest*). Picture Arrangement is where they have pictures, picture cards, and they have to put them together to make a story (*task demands*)." Teacher, "Okay." Psychologist, "So it taps inner language and sequencing, and it is timed (*cog. skills tapped).*

Likewise, experts #5, #3, and #2 provided complete descriptions of significant subtests to teachers. In the examples below, all experts described the "subtest demands" and "skills that are tapped" by the subtest. At this early point in the discussion, only one expert commented upon the child's score on the significant subtest. The other two experts reported the child's score later on in the discussion, as they described the child's behavior on the subtest.

> Psychologist #5, "What else can we get." Teacher, "How was comprehension (*significant subtest*)? What's that test like?" Psychologist, "More or less social comprehension, common sense about her everyday environment (*skills tapped*). Let me give you a couple of examples from that, 'What is the thing to do if you see thick smoke coming out of the window of your neighbor's house (*subtest demands*)?'"
>
> Psychologist #3, "When you looked at the different tasks, on the verbal his strongest performance (*test score*) was in background information (*cog. skills tapped*). He has a lot of knowledge (*cog. skills tapped*). You know, Christopher Columbus, the oceans, which direction the sun rises, how oxygen is returned to the air (*task demands*)." Teacher, "Hmm."
>
> Psychologist #2, "So in terms of verbal concepts, he was asked to either show me something from a picture, and I'll show you some of the pictures I gave him. He was asked to show me something (*task demands*), which means he can point to it and identify it (*task demands*), or he's asked to say it, so he has to say the words." Teacher, "Okay, so he can do either?" Psychologist, "Right... Noel was four-eleven when I tested him. Here, for example, it says, 'Show me a drum,' and he just has to point to it; so that is like receptive vocabulary, is he understanding what I'm asking him to do (*cog. skills tapped*)."

Case study analyses also show that experts provided rich descriptions of the child's behavior and performance (i.e., test score) during the evaluation. In these discussions, experts typically gave numerous and specific examples of child behavior on the subtest. They also explained how they intervened with the child if the child experienced difficulty. This behavior allowed experts to convey a clear picture of their experience with the child. But it also allowed them to search for patterns within their assessment data. In the example mentioned above, expert #1 was discussing her findings from the Picture Arrangement subtest of the WISC-III. As she continued with the discussion, she described the child's behavior in a markedly detailed and analytical fashion, particularly as she searched for behavioral patterns within the subtest:

> Psychologist, "His first thing was, 'Oh, this is easy (*child behavior on subtest*).'" But, and it was. He got the easy ones right (*where successful*). Then he missed two more easy ones (*where less successful*), and then he got another harder one right. And then he missed a few. I am not sure why he got such a low score on this, and this is what we will

> try to put together at the end. He had some sequencing problems. He didn't in other places, but I don't think he paid much attention to details (*child behavior*). I gave him the opportunity to check, but he didn't (*psychologist response to child behavior).* He got it done and that was it." Teacher, "Right."

The conversations of experts #5, #3, and #2 will also be continued and presented in their respective order for the purposes of this discussion. The verbal behavior of these experts is akin to the behavior of expert #1, in that these experts provided rich, thorough, and analytical explanations of child behavior as well. This finding suggests that experienced psychologists actively search for a consistent pattern of behavior within a subtest. It also suggests that experts think it is important to share their ideas with teachers. The dialogues that follow offer examples of a child who experienced difficulty with a subtest (E# 5) and two children (E#3 & E#2) who evidenced relative success on significant subtests:

> Psychologist #5, 'What do you do if you loose a ball that belongs to one of your friends (*task demand*)?' [Child], "You return it (*child behavior*)." She's lost already." Teacher, "Right." Psychologist, "So I asked her a question, 'Tell me more about that. You loose a ball that belongs to one of your friends, what should you do (psychologist response to child)?' [Child], "Leave it out in the yard (*child behavior*)." Leave it out in the something. It didn't give her any points (where child was less successful). She missed the purpose of the question. She missed the point. There's some language processing..." Teacher, "Yes." Psychologist, "Some of the harder items... the last one that she got credit for, she got partial credit for, why do we have to put stamps on letters? Well that's how much they cost (*where successful*)." I asked her form more information at that point (*psychologist response to child*)." Teacher, "Hmm." Psychologist [child], "So it can go from one place to another." Teacher, "Right." Psychologist, "Which is not bad. But she missed some easier items too. So a low-average overall on that (*score on subtest*)."
>
> Psychologist #3, "You know, Christopher Columbus, the oceans, which direction the sun rises, how is oxygen returned to the air." Teacher, "Hmm." Psychologist, "He knew that was from trees. He knew coins, which month came, how many things make a dozen (*child behavior, where successful*). He had a fair amount of knowledge for a first grader (*interpretation*)." Teacher, "Right." Psychologist, "So that was a particular strength. Everything else came out average (*score on subtest).*"

> Psychologist #2, "And he just has to point to it; so that is like receptive vocabulary, is he understanding what I'm asking him to do (*cog. skills tapped*) and 'Show me a bird,' and he was able to do that (*child behavior, where successful*)." Teacher, "Okay." Psychologist, "Show me an elephant, and he's able to do that (*child behavior, where successful*). Now it changes where he's shown this picture, and he's asked to say it (*task demands*). 'Say spoon.' So it's not just receptive, it's also expressive vocabulary (*cog. skills tapped*), can he say it, and he was able to do that. And then go back to 'Show me a pencil,' and it alternates. 'Say book,' and he was able to most of this very appropriately. And his performance was in the average range (*score on subtest*), so I didn't see any problems there with his receptive or expressive vocabulary."

Finally, the first half of the consultative explanation concludes with experts noting whether the child's performance on the significant subtest was consistent with his or her performance on other areas of the evaluation that measure similar skills. These other areas might include (1) subtests of the same test, (2) subtests of different tests, and/or (3) factor scores of the same test (e.g., Perceptual Organization Factor of the WISC-III) that comprise the significant subtest. In short, the purpose of this discussion is for experts to note whether or not they see a pattern of scores or a convergence of findings. For example, as expert #1 continued with her discussion of the Picture Arrangement Subtest, she began to talk more definitively about the absence of a pattern regarding sequencing problems. She explained that the child's performance was "fine" on other subtests where the child was required to sequence items, indicating that she felt his difficulty on the subtest was attributable to something other than sequencing problems:

> Psychologist, "He got that one right, but the other ones, you know, he really um wasn't even a pattern (*inconsistency of findings*). This one was all mixed up. This one he had one mixed up. So, I don't know. I don't think that he has problems sequencing (*interpretation/implication*). He really did fine on these other areas that he might have to sequence (*inconsistency of findings*). His arithmetic was okay, but that is something to look at later on (*inconsistency of findings*)."

Similarly, experts #5, #3, and #2 reported on whether they saw a convergence or consistency of findings among the various subtests (or

factor/index scores) that were administered to the referred child. However, these experts differed in terms of the types of scores (e.g., factor scores, individual subtests) they emphasized in their discussions and in the extent to which they spoke about a pattern of scores. These differences in verbal behavior may be due to the specific nature of the referral question (e.g., suspected LD/ADHD or readiness for kindergarten), which would clearly impact upon the comprehensiveness of the evaluation, and, in turn, the length of the explanation. For example, as expert #5 continued with his conversation about "Katie," he commented in moderate detail about the child's factor scores on the WISC-III and how the scores highlighted her academic strengths and limitations:

> Psychologist, "Her greatest strength overall as far, these four initials right here..." Teacher, "Hmm." Psychologist, "Are called index scores, but basically what they are, are clusters. These two are comprised of four different subtests, and the bottom two are comprised of two different subtests. This stands for Verbal Comprehension (*inconsistent*). They are all related to each other in terms of the type of information they are hoping to extract." Teacher, "Okay." Psychologist, "Perceptual Organization (*inconsistent*). Freedom from Distractibility (*inconsistent*), she has to hold information mentally while she comes up with a solution. And Processing Speed (*consistent*), just visual motor, rote tasks. You can see this..." Teacher, "I can see." Psychologist, "This is far and away her greatest strength (*consistent*)." Teacher, "Yes." Psychologist, "It blows away the other three. So if it is rote she does well (*consistent*)." Teacher, "Right."

On the other hand, expert #3 revisited the issue of consistency of findings many times during her meeting, especially in relation to the child's unequivocal academic potential. In the example below, she noted that "Rick" is intellectually capable of performing at grade level, emphasizing that he demonstrated relatively even skills across the various subtests of the WISC-III. In short, she was beginning to build a case for learning problems due to factors outside of school (i.e., family stressors), a point that was exemplified in the previous section of this paper:

> Psychologist, "But overall what this shows is, intellectually, he is capable. It is not due to any, any - he's a good thinker. He's bright enough." Teacher, "Right." Psychologist, "And he's not lopsided. In other words, he's not very developed, some kids language, especially if they have reading problems, you'll see that their verbal scores are depressed. That was not the case with him (*consistent*)."

Likewise, expert #2 did not elaborate too much about a discernable pattern of scores. Instead, she consistently emphasized that most of "Henry's" scores fell "within the average range" and, thus, were appropriate for his age. In other words, this expert opted to speak directly to the referral question, which was to determine whether "Henry" was ready for kindergarten:

> Psychologist, "And he was able to do most of this very appropriately and his performance was in the average range, so I didn't see any problems there with his receptive or expressive vocabulary."

Subsequent to this comment, she remarked:

> But, it's just Basic School Skills. And he's right where he should be within the average range for his age, so again, that's okay. Teacher, "Right, good."

In summary, this section described the consultative and assessment explanations of experts in relation to the child's behavior and performance on a significant subtest. Three main elements comprise this particular explanation, including the description of the significant subtest, the child's behavior on the subtest, and the child's score on the subtest and other similar tests. Experts provided complete descriptions of subtests, noting what cognitive skills the subtest measures and what specific activities comprise the subtest. Experts also provided rich descriptions of the child's behavior on the subtest, offering many examples of child behavior on the various items that make up the subtest. Moreover, their explanations of child behavior were analytical, in that experts actively searched for patterns of behavior within the subtest. Likewise, when they described the child's score on the subtest, experts noted whether they saw a convergence of scores on subtest measuring

similar skills. Taken collectively, these findings show that experts sought to identify patterns of behavior and performance not only within a subtest but also across the evaluation.

Relating assessment results to classroom functioning.

During the second part of the consultative explanation, which is depicted in the lower half of the subtest schema (see Figure 4), psychologists link their test data to the child's classroom functioning. The purpose of this conversation is to generalize the psychologist's findings to the classroom, which, in turn, allows the psychologist to validate his or her clinical impressions of the child. As noted previously, this conversation is initiated either by the psychologist or the teacher, but all experts ensure that their principal findings can be generalized to the classroom.

The second half of the consultative explanation concerns three main ideas: the child's classroom behavior, the child's academic performance, and classroom interventions that might ameliorate the child's learning problems. Experts typically did not touch upon all three ideas as they explained their findings from one subtest. Instead, they tended to focus on either the curriculum or the child's classroom behavior and then related these ideas to potential educational interventions for the child. Nevertheless, all experts fully examined the relationship between the test data and the child's classroom behavior or achievement, as shown by their ability to make remarks or encourage teacher statements that corresponded to a majority of nodes on the lower half of the schema. That is, the experts not only established a link between the child's classroom functioning and the child's test behavior/performance, but they also systematically explored what factors either enhance or undermine the child's classroom achievement. For example, expert #1 thoroughly examined the various classroom issues that

might be contributing to the child's academic problems. In the example below, she participated in a relatively brief conversation about the similarity between her behavioral observations from the Picture Arrangement Subtest and the child's classroom behavior. But note how much information she elicited from the teacher, especially in terms of the child's classroom behavior and the teacher's response to such behavior:

> Psychologist, "I gave him the opportunity to check, but he didn't (*psych. response to child*). He got it done and that was it (*test behavior*)." Teacher, "Right. He doesn't usually go back (*classroom behavior*), and if I ask him to do it (*teacher behavioral intervention*), he says, 'No, I know its fine. It's done (*teacher intervention/less successful*).' He doesn't go back (*classroom behavior/undermine learning*). Was he distracted at all when he was doing this (*classroom behavior*)? Psychologist, "He wasn't really. He didn't seem to be distracted, but he just sort of did it quickly (*test behavior*)."

As she continued with the conversation, expert #1 began to talk about her results from the Block Design Subtest and how they highlighted specific curriculum and pedagogical factors that might be helpful in addressing the child's learning difficulties. In the dialogue below, the teacher spontaneously related the expert's recommendations to her own classroom practices. The teacher's response prompted the expert to immediately inquire into the efficacy of the teacher's pedagogical techniques. The expert then used this information to formulate a critical intervention for the child. In short, this expert, in dialogue with the teacher, methodologically examined the various behavioral, pedagogical, and curriculum issues that might be contributing to the child's academic difficulties:

> Psychologist, "He is fairly good with visual (*implication*), so - you know Block Design. He was higher than the mean (*test score*), and he was able to look at spatial pictures and then put them together (*task demands*). So probably we will have to give him more visuals, you know (*classroom intervention*). Visual Processing was in the high-average range (*test score*)." Teacher, "With the writer's workshop, we started using different kinds of semantic webbing (*classroom curriculum*). And we would have a box 'Who' to just write your character. 'What,'

> whoever was involved in this, what are the three things that he did. Then he would work on taking that and putting that into story format." Psychologist, "He did better with that (*when successful/less successful*)?" Teacher, "He did (*successful with curriculum*). But even like using that tool, he needed a lot of guidance (*teacher mod. of instruction*). Psychologist, "Yeah." Teacher, "But it is all organization." Psychologist, "So that's it. So we are going to star this because we are tapping into an area, organizing ideas (*implication*).... Those visual organizers are good to use for him. I have to keep on that."

Likewise, experts #5, #3, and #2 systematically examined the various behavioral or curriculum factors that might be contributing to the referred child's learning problems and then used this information to formulate sound educational interventions for the child. The first example of such behavior is from expert #5. As he continued with his discussion of "Katie" and her success with rote learning tasks, he inquired into the specific classroom activities with which she experiences success. He then used this information to develop a recommendation for her:

> Psychologist, "Just visual, motor, rote tasks... This is far and away her greatest strength." Teacher, "Yes." Psychologist, "It blows away the other three." Teacher, "Yes." Psychologist, "So if it is rote, she does well (*implication*)." Teacher, "Right, multiplication tables, any concept in math (*classroom curriculum*)." Psychologist, "Is she good with her times tables (*where successful with curriculum*)?" Teacher, "Yes, yes. And um - yeah, anything she has to memorize, she can memorize (*when successful with curriculum*). She won't understand what she is memorizing (*when less successful with curriculum),* but it sounds like that is right on. She is very good in multiplication." Psychologist, "That's good." Teacher, "Not if there is a word problem, putting any words around it. That's another story (*when less successful*)." Psychologist, "she seems like the kind of kid who will benefit from the resource room (*intervention*)." Teacher, "Yes." Psychologist, "You know it is not going to be a band-aid for her. Teacher, "No... she needs the repetition."

Expert #3 also evidenced an analytical thought pattern (and encouraged one in the teacher as well), as she presented her ideas regarding the appropriate diagnosis for the referred child's learning problems. Below, she explained that the child has attentional issues and not a specific learning

disability. The expert did not offer a recommendation for the child during the present conversation but, instead, attempted to uncover the particular curriculum and behavioral issues that might be contributing to the child's inattention. Indeed, she engaged in a thoughtful problem-solving process with the teacher, a process that she apparently wanted to exhaust before discussing possible recommendations for the child:

> Psychologist, "I don't necessarily see a learning disabled child here (*implication*)." Teacher, "Okay." Psychologist, "I have some questions regarding his inattention." Teacher, "Um-hmm." Psychologist, "You know, sometimes it's due to kids that have learning problems, but I don't know. I mean, his learning problems aren't in all areas. There seem to be a fair amount of strength here, and yet he is fairly inattentive. Like when I saw him in math, which you said was a pretty hands on activity (*curriculum*)." Teacher, "Right. But he enjoys math also (*curriculum/successful*). When we do writing..." Psychologist, "He is less attentive (*curriculum/less successful*)." Teacher, "Yeah, because, again, there is a lot of independent work. I conference with the kids, and again, I will look up and he is at his desk not doing anything, playing with pencils (*child classroom behavior*), playing with this thing, and I have to refocus him again (*teacher behavioral intervention*), and then he will start to write (*teacher successful intervention*). And then he'll come up to me with the first paragraph and letters are still backwards (*curriculum/less successful*). I have, he's spelling, 'the' as 'het.' I don't know why."

Finally, E#2 encouraged and maintained a constant dialogue with the teacher concerning the relationship between the child's test results and academic performance. Evident in the example below is the teacher's willingness to interject her own thoughts into the conversation about the child's test performance:

> Psychologist, "And here it's counting. 'Count the bears (*test demands*).' There are three of them, so they can say, 'Three,' or say, 'One, two, three,' you know, they touch them, all of them. 'Show me the number one.' You know, in a group of numbers, and he was able to point that out (*child behavior/successful*)." Teacher, "Well, that's good because we didn't do that yet (*classroom curriculum*)." Psychologist, "You didn't, so you know, some kids come in with skills already from preschool."

As this expert continued with the conversation, she compared the uniqueness of the testing situation with the classroom environment, emphasizing how the different settings seemed to influence the child's on-task behavior. The example below illustrates how the psychologist was able to elicit information from the teacher about how she addresses the child's off-task behavior and the degree to which the intervention is successful. This information was eventually utilized to develop a classroom intervention designed to address the child's academic difficulties:

> Psychologist, "And when I gave him instructions, he was appropriate. And I think that you said something very important: Here I'm testing him one-on-one." Teacher, "Right." Psychologist, "You know, things are ideal. I'm able to repeat and bring him back to things, but I see him in the classroom as..." Teacher, "This morning we were doing something in a group, and he just sat there. And he did it, but you couldn't even read what the letters were. And then, when I went over to him, sat with him, and said, 'A, write it...,' then he was okay with it. But he was just getting lost." Psychologist, "Yes, kind of distracted." Teacher, "Yeah, right. He does it everyday. It is like a routine thing. He couldn't..." Psychologist, "Couldn't get himself going."

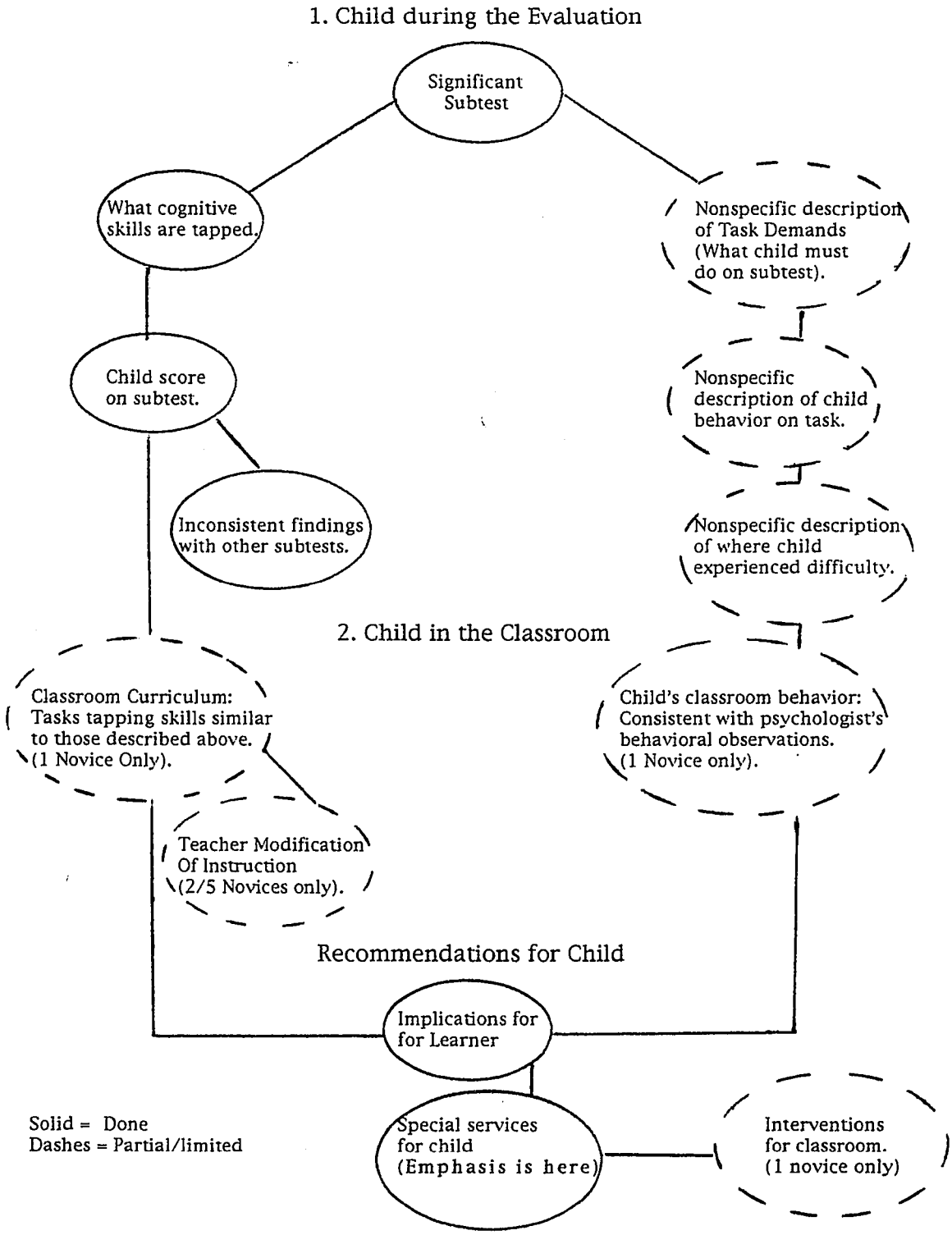
In summary, this section reviewed the second half of the consultative explanation of experts, which is comprised of three parts: the child's classroom behavior, the child's academic performance, and interventions that might ameliorate the child's learning difficulties. Experts gave complete explanations about the relationship between the child's test performance and the child's classroom functioning, as shown by the majority of nodes utilized on the lower half of the schema. However, they tended to focus their analyses on either the child's classroom behavior or the child's academic performance. That is, experts examined the specific curriculum, pedagogical, or behavioral issues that might be undermining the child's achievement. They then used this information to develop interventions for the child.

The consultative and assessment explanations of novices.

The analyses in this section explore the skill with which novice psychologists provide consultative explanations to teachers. The main coding scheme that was developed for experts (see Appendix H) was also utilized to analyze novice transcripts. Accordingly, novice transcripts were examined to determine the extent to which novices thoroughly explained their assessment results to teachers and to explore the degree to which novices generalized their assessment findings to the classroom. These analyses yielded several findings that are in stark contrast to the explanations of experts. First, novice explanations lacked specific detail in terms of the child's functioning during the evaluation and in the classroom. Also, novices did not describe what, if any, interventions they used with the child during the evaluation, nor did they inquire about the interventions the teacher used in the classroom. In short, novices did not actively search for behavioral patterns across the data. Thus, it was difficult to get a sense of the child and the various factors that might be contributing to the child's problems. Second, novices did not encourage and maintain teacher input during the post-assessment meeting. That is, novices presented their findings to teachers; they did not engage teachers in checking their findings. This behavior, in turn, interfered with the novices' ability to generalize their findings to the classroom. That is, most novices did <u>not</u> attempt to extend their findings to the classroom or endeavor to validate their clinical impressions of the child. Figure 5 depicts the variables that underlie the consultative explanations of novices. This figure represents the subtest schema of five novices or the issues that novices explored as they explained their assessment results to teachers. This section begins with a discussion of novices' description of the child and significant subtest during

the evaluation. Next, analyses concerning novices' ability to generalize their findings to the classroom are presented.

Figure 5. Novice Subtest Schema: Two Critical Domains and Recommendations for the Child



Case study analyses of the five novices indicate that they conveyed their test results and observations of the child in a remarkably consistent manner. Most novices did not offer detailed accounts of the child's behavior or performance during the evaluation. That is, they did not provide specific examples of child behavior on a notable subtest, nor did they describe how they responded to the child when the child experienced difficulty with a task. Thus, their explanations are presented in sequence below, and pertain specifically to the upper half of the novice subtest schema. Explanations concerning the lower half of the schema are discussed later. As patterns emerge from the verbal data of novices, they are highlighted and discussed. Attention is given to the novices' ability to impart information to teachers in a comprehensive and meaningful way as well as to the degree to which they encourage and maintain a constant dialogue with teachers about the test data and their implications for the child.

Novice #8 evaluated a first-grade child referred for poor academic achievement. In the discussion below, the psychologist explained how the child performed on the Picture Arrangement Subtest of the WISC-III. At this point in the conversation, the teacher is participating somewhat in the discussion, particularly when she required further information about a test result. Also, the psychologist gave detailed, concrete descriptions of the demands of the subtest and of the child's difficulty with the task. However, she was not as analytical or thorough in her discussion as the experts described above. That is, she did not compare items on which the child was successful to items on which the child experienced difficulty, nor did she explain how she intervened with the child in an attempt to facilitate his performance on this "difficult" task. Indeed, it was the teacher who asked for clarification regarding where the child was successful and less so. This finding suggests

the teacher was thinking more analytically about the test data than the psychologist and, in doing so, attempted to create for herself a better understanding of the findings and their significance for the child.

> Psychologist, "One task where he did, where was very poor (*subtest score*) was when he had to put puzzles together that created meaningful pictures (*task demands*). Puzzles where when you put the pieces together they created a doll or they created a car (*task demands*)." Teacher, "Hmhmm." Psychologist, "He found this very confusing. The doll's hands were on opposite sides than they should have been (*test behavior*), and he had a lot of difficulty putting together a horse (*test behavior/less successful).* The body parts were on different sides, it was a very difficult task for him (*test behavior/less successful*)." Teacher, "But when he had a design, he could do it." Psychologist, "But, when he handed me a design and the design was in front of him..." Teacher, "But not actual things." Psychologist, "When it was meaningful things, he had a lot of difficulty (*Inconsistent findings/other subtests*). Teacher, "Hmhmm."

Novice #9 also evaluated a child for general academic underachievement. In the dialogue that follows, she described a verbal subtest on the WISC-III on which the child achieved a low score in relation to the other verbal scores. This novice encouraged teacher input throughout the meeting, though it is not so apparent in the excerpt below. However, the psychologist's explanation regarding the cognitive skills tapped and task demands of the subtest lack specific detail. This nonspecific explanation prompted the teacher to ask for more descriptive information about the subtest. The psychologist did not provide concrete, specific examples of the child's behavior on the subtest and did not explain how she responded to the child when the child experienced difficulty with an item, resulting in an incomplete and unsystematic review of the test data. She appeared to have difficulty providing a complete description of the subtest, indicating that she had not yet constructed for herself a meaningful representation of the task.

> Psychologist, "Her weakness was on a subtest that measures one's ability to solve everyday problems, and demonstrate an understanding of social rules and norms (*cognitive skills tapped*). This was below average

> (*subtest score*) and it was also considered a weakness when compared to her own pattern of abilities." Teacher, "Okay." Psychologist, "So, when I am comparing that subtest to the other subtests within the verbal scale, it was low (*subtest score*)." Teacher, "Could you just say those, that test again." Psychologist, "Sure. It's to solve everyday problems and social norms and rules (*cognitive skills tapped*). Let's say, what would you do, like she couldn't get this item right, um, 'What would you do if a girl much younger than yourself started to fight with you (*task demands*)?'" Teacher, "Hmhmm." Psychologist, "She wasn't able to provide me with the correct answer (*test behavior/less successful*). She got a lot of partial credits on many of the items but not full credit. So she lost a lot of points because she couldn't give me the number - like the highest, you know." Teacher, "Yeah." Psychologist, "Acceptable responses."

Analyses of novices #10, #11, and #12 are presented below. All three explanations pertain to a subtest or cluster score on which the referred child performed below normative expectations for his/her age. Much like the two novices above, these novices gave brief, incomplete explanations of the referred child's performance and behavior on a noteworthy task. That is, they offered either nonspecific or highly technical descriptions of the task demands and cognitive skills tapped by the subtest/cluster score. They also provided no specific examples of the child's behavior on the task, and no analysis of the child's performance on the subtest (i.e., success/less success). In addition, they did not describe what, if any, interventions they utilized with the child during the testing, and they appeared reluctant to encourage teacher discussion of (i.e., #11) or elaboration about (i.e., #10) their classroom experiences with the child. Taken collectively, all novices seemed to have difficulty conveying information to teachers in a direct and detailed manner. This result suggests that novices had not yet constructed for themselves meaningful and interconnected representations of the various components of the assessment process (e.g., test scores and child behavior).

> Psychologist #10, "And the other issue was his short-term memory. And basically that is his ability to kind of hold information in the immediate awareness and then quickly give it back to you (*cog. skills tapped*). And

this would affect his ability to do multi-step problems (implication)." Teacher, "He has a lot of trouble with multi-step problems (*classroom curriculum*). Holding onto that - I'll have to repeat things over and over for him for to try to remember and hold onto things (*teacher mod. of instruction*). I do find that in the classroom a lot." Psychologist, "Okay, well this is good that everything is pretty consistent (*consistent findings*). With regard to his achievement..."

Psychologist, #11, "'Jane' also has processing speed deficits. And basically, this looked at to see the speed and efficiency in which she performed automatic or very simple cognitive tests (*cognitive skills tapped*), and she had an extremely difficult time; she is significantly below age-expectations on this task (*subtest score*). It takes 'Jane' a long time to look at the material, process what she needs to do, and then go and attack the task and get the task completed (*subtest behavior*). She also takes a long time when things are presented to her and things are said to her to process (*behavior/less successful),* okay, what is it exactly that you may have wanted, or another teacher, or students was asking of her? So this is, again, another significant area of weakness for 'Jane' (*subtest score*). As far as her auditory processing..."

Psychologist, #12, "The areas that were the hardest like I said was involving attention, sustaining concentration, things that required him to change his way of thinking (*cog. skills tapped*). Like if he is stuck doing one thing, and he changes it to do another - I had certain tasks that he needed to kind of adjust to those (task demands) - and he wasn't able to do *that (behavior/less successful*)." Teacher, "Right." Psychologist, "He was deficient to well-below average in all of those areas (*subtest score*), which was interesting because they are very simple tasks, and you know he can do them (*inconsistent findings with other subtests*)." Teacher, "Right." Psychologist, "Because of all of his other cognitive abilities (*inconsistent findings with other subtests*)." Teacher, "Right." Psychologist, "But he is not able to because he is internally distracted. He can't stay focused (*subtest behavior*)." Teacher, "Right, exactly. It's hard to, you are teaching, and you know he has the problem, but there is no way - there is nothing I can do (*classroom behavior*)." Psychologist, "No, I can understand that because even on a one-to-one basis (*subtest behavior*)." Teacher, "Right."

The analyses for this section conclude with a discussion of novices' ability to generalize their findings to the classroom. As noted above, only two novices (#10 & #12) attempted to extend their findings to the classroom, and they did so with considerable variability. For instance, novice #10 met with a teacher who made several attempts to link the test results to her classroom observations, but the novice did not use the teacher's comments as a jumping off point from which to explore the classroom dynamics. In contrast, novice

#12 encouraged discussions about the child and the teacher's experience of him in the classroom. In doing so, she was able to open up the conversation for further inquiry into the child's "focusing difficulties." But even this novice did not explore the child's classroom functioning in a methodical fashion.

> Psychologist #10, "...and basically his biggest area of weakness (*test score*) was his cognitive efficiency." Teacher, "What exactly is that?" Psychologist, "That is how quickly he processes information (*cog. skills tapped*)." Teacher, "Okay." Psychologist, "And how efficiently he does so (*cog. skills tapped*)." Teacher, "Okay." Psychologist, "And, again, the attention can be playing in on that also, but he had some deficits particularly in processing speed, which is how quickly he processes information (*cog. skills tapped*). Teacher, "I notice it does take him a while in the classroom to process to get assignments started (*classroom curriculum*)." Psychologist, "Umhmm." Teacher, "To get through them." Psychologist, "Well, this is consistent with what we found, which is
> good (*classroom curriculum*). And the other issue was his short-term memory. And this would affect his ability to do multi-step problems (implication)." Teacher, "He has a lot of trouble with multi-step problems (*classroom curriculum*). Holding onto that - I'll have to repeat things over and over for him for to try to remember and hold onto things (*teacher mod. of instruction*). I do find that in the classroom a lot." Psychologist, "Okay, well this is good that everything is pretty consistent (*consistent findings*). With regard to his achievement..."

> Psychologist #12, "But he is not able to because he is internally distracted. He can't stay focused (*subtest behavior*)." Teacher, "Right, exactly. It's hard to, you are teaching, and you know he has the problem, but there is no way - there is nothing I can do (*classroom behavior*)." Psychologist, "No, I can understand that because even on a one-to-one basis (*subtest behavior*)." Teacher, "Right." Psychologist, "He wasn't nearly as difficult as in the classroom." Teacher, "Even in his group he is being tutored with Carl, and he is in a group of maybe 4 or 5, and still has difficulty focusing." Psychologist, "Because he has such great social skills, he is so outgoing." Teacher, "Mmhmm." Psychologist, "The minute something pops into his head, he has to tell you about it." Teacher, "Right." Psychologist, "And that's okay with me, but I can see it being a big problem in the classroom. So I can really understand where you are coming from." Teacher, "Right, right."

In summary, this section presented the consultative explanations of experts and novices and highlighted the differences in the verbal behavior

and cognition of both groups. The differences are illustrated in Table 14, where comparisons are made of both the expert and novice utilization of specific nodes on the subtest schema. There are several noteworthy findings from the expert transcripts. First, experts explanations reflected both of the key domains of school-based assessment: (1) the child's behavior and performance during the evaluation and (2) the child's classroom functioning and the extent to which it is consistent with what was observed during the evaluation. Second, experts provided comprehensive explanations of subtests/factor scores to teachers. That is, they explained in non-technical terms the cognitive skills that a subtest measures and provided specific examples of what the child was required to do on a particular task.

Third, experts provided rich, detailed, and analytical descriptions of the child's behavior and performance during the evaluation. In addition, they commented upon the interventions they utilized when the child experienced difficulty with a task and whether the intervention was successful in improving the child's test performance. These behaviors conveyed a sense of the expert's experience with the child and allowed the expert to search for behavioral patterns within his or her data.

Fourth, all experts explored the extent to which the test results generalized to the classroom and they encouraged extensive discussions about this relationship. Such behavior indicates that experts thought it important to validate their clinical impressions of the child. The experts also systematically examined, with the help of the teacher, the factors (e.g., behavioral, pedagogical, curriculum) that may be contributing to the child's academic problems. They then used this information to formulate educational interventions that are appropriate for the child and acceptable to the teacher. In short, experts actively searched for a consistent pattern of

behavior/performance across the various tasks administered to the child and the many environments the child experiences. Throughout the meeting, they also made sure to convey information to teachers in an easily comprehensible manner and to encourage teacher input whenever possible.

The consultative explanations of novices differed considerably from those of experts (see Table 14). First, novice explanations reflected only one of the two primary domains of school-based assessment (i.e., the child during the assessment and the child in the classroom). Thus, novices did not engage the teacher in establishing a link between their test results and the classroom and focused instead on their own test data. Second, novices' descriptions of significant subtests/cluster scores were often highly technical and nonspecific, and they offered no examples of what the child was expected to do on a task. Likewise, they frequently omitted specific, concrete examples of child behavior during the evaluation. Consequently, novices had difficulty discussing their data in an analytical manner and explaining their results in clear and understandable terms. These two behaviors limited the teachers' ability to make meaningful contributions to the discussion and, ultimately, interfered with the dyad's ability to construct a clear and comprehensive picture of the child's academic strengths and needs. In short, experts provided clear and cogent explanations of their test data to teachers in contrast to novices. Accordingly, hypothesis #6 is confirmed, which states experts, as compared to novices, are more likely to give complete explanations of the relevant test data to teachers.

Table 14

Comparison of Expert and Novice Utilization of Specific Nodes on Subtest Schema

Major Domains on Subtest Schema	Experts	Novices
Child and Assessment		
Significant Subtest	+	+
Cog. Skills Tapped	+	+
Score on Subtest	+	+
Consistent Findings	+	0
Inconsistent Findings	+	+
Task Demands	+	0
Behavior on Subtest	+	0
Where Successful	+	0
Where less Successful	+	0
Psych. Response to behavior	+	0
Child and Classroom		
Classroom Curriculum	+	0
Child Successful	+	0
Child less Successful	+	0
Teacher Mod. of Instruc.	+	0
Success	+	0
Less Success	+	0
Classroom Behavior	+	0
Behavior promote learning	+	0
Behavior undermine learning	+	0
Teacher Beh. Intervent.	+	0
Success	+	0
Less Success	+	0
Recommendations for Child		
Implications for Learner	+	+
Classroom Interventions	+	0
Special Services (outside classroom)	+	+

+ = Done

0 = Partial/Limited

Elaborate and integrated knowledge base and fluent retrieval of relevant knowledge.

Earlier in this chapter, two general protocols for psychoeducational assessment in the schools were presented (see Figures 2 & 3). Those protocols depicted the broad problem-solving process for expert and novice school

psychologists, as they sought to identify, via administration of psychoeducational tests, the various factors contributing to a child's learning problems. In this section, the problem-solving process is revisited and focuses on a particular aspect of this process. Specifically, the process of defining the major learning issues for a child during the post-assessment meeting is discussed, with particular attention given to the way in which psychologists think through this process. In addition, the differences in thought processes for experts as compared to novices are described.

Experts explain their assessment results to teachers in a remarkably consistent fashion, as shown by the Expert Subtest Schema (see Figure 4). First, they tend to select a few critical assessment results to discuss with the teacher (i.e., noteworthy subtests/cluster scores), a finding that is explored more fully in the subsequent section. Next, they explain each critical finding and its significance to the teacher. During this time, they also look for confirmatory evidence of their clinical impressions of the child. By comparison, the expert schema or explanation is considerably more elaborate than the novice schema or explanation (see Figure 5), suggesting that experts have a broader and deeper knowledge base than novices. The experts' experience or familiarity with the various psychological tests and their uses may help to explain this difference. But a more definitive explanation of this phenomenon may come from examination of the way experts as compared to novices process and think about psychological evidence.

Glaser & Chi (1988) and more recently the National Research Council ([NRC], 2000) have described the principal differences concerning the reasoning patterns and cognitive abilities of individuals who have developed expertise in a particular area. One such difference pertains to the way in which experts retrieve important information with little effort (NRC, 2000).

This ability, referred to as the fluent retrieval of relevant knowledge, eases some aspects of the problem-solving process (e.g., identifying a recognizable pattern of test scores), which allows conscious attention to be allocated to other aspects of the problem (e.g., familial influences on test scores/classroom behavior). Scientists who study the nature of expertise have argued that experts' ability to chunk relevant information together or to recognize problem types in a particular domain may explain experts' proficiency in this area. But these scientists caution that fluent retrieval does not mean that experts may solve a problem more quickly than novices. On the contrary, because they prefer to understand a problem before they move to searching for solutions, experts may occasionally take longer to work through a problem than novices (Glaser & Chi, 1988; NRC, 2000). This is an important point that will be returned to later.

Experts in the current study evidenced a substantial body of knowledge relevant to the practice of consultation and assessment (see Figure 4 or Appendix H). For example, experts demonstrated a deep understanding of the tests they use, the cognitive skills that these tests measure, and how to explain these tests and subtests to teachers. They also evidenced knowledge of how a child's school behavior and factors outside of the child (e.g., family, peers, teaching style, and curriculum) might contribute to a child's learning problems. However, the analyses conducted thus far have not examined the extent to which experts' extensive knowledge of assessment is integrated or interconnected, nor have they explored the degree to which experts are capable of retrieving pertinent aspects of their knowledge fluently.

Figure 6, developed from the consultative explanation below (see Table 15), depicts the flow of information between expert #1 and the teacher with whom she consulted, as they discussed a significant subtest on the WISC-III

and the broader issues related to the child's learning difficulties. This explanation was chosen for analysis because it is exemplary; it covers most nodes of the subtest schema. However, it is important to emphasize that this analysis was developed from a small sample of the expert's transcript. Thus, it is does not represent her total knowledge of assessment. In addition, it must be noted that all four experts were highly proficient in providing comprehensive explanations to teachers. That is, they, too, utilized most nodes on the subtest schema when discussing a significant result. Thus, the findings below can be applied to those experts as well.

Three important aspects of this expert's knowledge of assessment are evident in Figure 6. First, this expert has a broad and integrated knowledge base. The broadness or depth of her knowledge is shown by the number of nodes (n=17) she activated during this brief discussion. The numerous interconnections (i.e., arrows) on the schema below illustrate the degree to which her knowledge is integrated or connected. Integration of knowledge in this context indicates that the expert sees all aspects of the assessment process, including examination of the broader environment the child experiences, as interrelated. Thus, she was able to acknowledge that the child's behavior may impact upon his cognition and that environmental influences (e.g., classroom dynamics/testing situation) may affect the child's achievement and test performance. Further, this understanding prompted her to actively explore with the teacher the extent to which these various factors might be interacting with each other. An integrated knowledge base is an integral component of expert thinking (Glaser & Chi, 1988). In this case, it allowed the expert to weave a clear picture of the child's true learning difficulties (e.g., organizational as opposed to sequencing problems), after consideration of all pertinent issues related to the child's academic achievement.

Second, the expert was able to retrieve (i.e., access and introduce) her extensive knowledge of assessment with seemingly little effort (i.e., fluently). Her fluency with such knowledge is depicted by the flow of lines on the schema. These lines illustrate her ability to recall not only isolated facts (e.g., cognitive skills measured by a subtest), but also a series of related ideas (e.g., subtests that measure similar skills) as well as problem types typically seen in underachieving elementary school children (e.g., manifestation of sequencing problems). Fluent retrieval of relevant information is a key characteristic of expert thinking (NRC, 2000). For this expert, fluent retrieval meant that she was able to devote her conscious attention to considering the relative merit of the various issues under discussion, rather than to recalling relevant information and its relationship to other knowledge. On a more fundamental level, it meant the expert was open to hearing the teacher's viewpoints and able to incorporate this information into her own formulations when appropriate.

Finally, this expert spent a good deal of time problem-solving. That is, she methodically worked through the problem of identifying the child's true learning difficulties. She first systematically reviewed her test results and the various classroom factors that might be negatively impacting upon the child's academic success. This allowed her to define the problem in terms of either sequencing difficulties or poor organizational skills. She then reviewed her test data again before concluding that poor organizational skills was one of the child's chief learning problems. It is interesting to note that the expert did not begin to discuss possible classroom interventions (i.e., solutions to the problem) until she had clearly defined the issues that were impinging on the child's learning. This and the other two characteristics just mentioned are

typical of individuals who have developed expertise in a particular field (Glaser & Chi, 1988; NRC, 2000).

Table 15. *Consultative and Assessment Explanation of Significant Subtest, Picture Arrangement of WISC-III, by Expert #1 in Interaction with Teacher.*

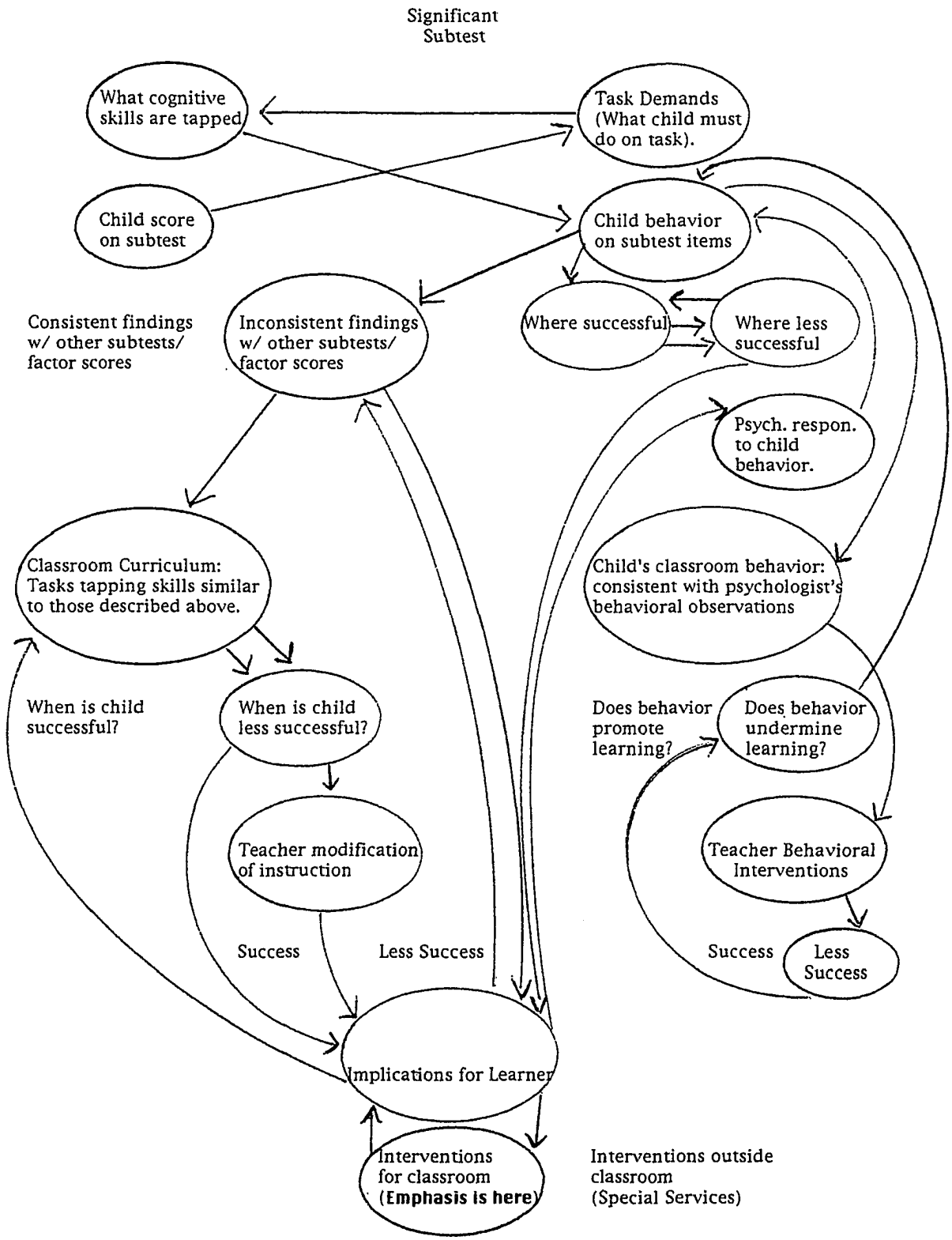
Explanation	Node on Subtest Schema
Psychologist, "But, his weakest score, which is really a deficit, almost in the deficit range, was Picture Arrangement. Picture Arrangement is where they have pictures, picture cards, and they have to put them together to make a story."	Score on Subtest Task Demands
Teacher, "Okay."	
Psychologist, "So it taps inner language and sequencing, and it is timed. His first thing was, 'Oh this is easy.' But and it was - he got the easy ones right, then he missed two more easy ones, and then he got another harder one right, and then he missed a few. I am not sure why he got such a low score on this, and that is what we will have to put together at the end - he had some sequencing problems. He didn't in other places, but I don't think he paid much attention to details. I gave him the opportunity to check, but he didn't. He got it done and that was it."	Cognitive Skills Tapped Test Behavior Test Behavior (Success) Test Behavior (Less Suc.) Test Behavior (Success) Test Behavior (Less Suc.) Interpret./Implication Psychologist Resp./Child Test Behavior
Teacher, "Right. He doesn't usually go back, and if I ask him to do it he says, 'No, I know its fine. It's done.' He doesn't go back. Was he distracted at all when he was doing this?"	Classroom Behavior Teacher Behavior Interv. Teacher Interv./Less Suc. Class. Beh./Underm. Lrn.
Psychologist, "He wasn't really. He didn't seem to be distracted, but he just sort of did it quickly. You know 28 out of 45 seconds.	Test Behavior
Teacher, "Oh wow."	
Psychologist, "He got that one right, but the other ones, you know, he really um wasn't even a pattern. This one was all	Inconsistency of Findings

(table continues)

Table 15 (continued)

Explanation	Node on Subtest Schema
mixed up. This one he had one mixed up. So, I don't know. I don't think that he has problems sequencing.	Interpret./Implication
He really did fine on these other areas that he might have to sequence	Inconsistency of Findings
His arithmetic was okay, but that is something to look at later on."	Inconsistency of Findings
Teacher, "When we did the um - I know it's a little different, but when we do the DRA, the reading assessments, and I have him retell the events from the story."	Classroom Curriculum
Psychologist, "Yes."	
Teacher, "They are not in sequence when he tells them. He will tell different things that happened, but	Curriculum/Less Suc.
he doesn't tell them to you--"	Curriculum/Less Suc.
Psychologist, "So that would be reflective. He had some difficulty with temporal sequencing, keeping a story in order."	Implication
This could be something that we try to make to teachers aware of next year, because that is organizing ideas in his	Classroom Intervention
head, organizing thoughts in his head."	Implication
Teacher, "Organization is an area that he had difficulty across the board with, even like when he sits down to work on a writer's workshop story, he just --	Classroom Curriculum
everything is all over, he doesn't know where to get started, how to get started	Curriculum/Less Suc.
He needs a lot of redirection when it comes to organization."	Teacher Mod. of Instruct.
Psychologist, "Yeah, that's a big point."	Implication

Figure 6.
Expert #1 Subtest Schema/Fluent Retrieval



Analyses of novice thinking and problem-solving are presented next. Excerpts of two novice transcripts, N#10 and N#12 (see Tables 16 and 17), and their corresponding schemas are presented below (see Figures 7 and 8). These novices were chosen for analysis because their verbal behavior is fairly representative of their group. In addition, they were the only two novices who linked their assessment findings to the classroom. The dialogues that follow pertain to a subtest or cluster score on which the referred child obtained a score that was below expectations for his age.

Table 16. *Consultative and Assessment Explanation of Significant Subtest, Picture Arrangement of WISC-III, by Novice #10 in Interaction with the Teacher.*

Explanation	Node on Subtest Schema
Psychologist, "And the other issue was his short-term memory. And basically that is his ability to kind of hold information in the immediate awareness and then quickly give it back to you. And this would affect his ability to do multi-step problems."	Test Score Cognitive Skills Tapped Implication
Teacher, "He has a lot of trouble with multi-step problems. Holding onto that - I'll have to repeat things over and over for him for to try to remember and hold onto things. I do find that in the classroom a lot."	Classroom curriculum Teacher Mod. of Instruct.
Psychologist, "Okay, well this is good that everything is pretty consistent. With regard to his achievement..."	Classroom Curriculum

Table 17. *Consultative and Assessment Explanation of Significant Subtest, Picture Arrangement of WISC-III, by Novice #12 in Interaction with the Teacher.*

Explanation	Node on Subtest Schema
Psychologist, "The areas that were the hardest like I said was involving attention, sustaining concentration, things that required him to change his way of thinking.	Cognitive Skills Tapped
Like if he is stuck doing one thing, and he changes it to do another - I had certain tasks that he needed to kind of adjust to those,	Task Demands
and he wasn't able to do that."	Test Behavior/Less Suc.
Teacher, "Right."	
Psychologist, "He was deficient to well-below average in all of those areas, which was interesting because they are very simple tasks, and you know he can do them."	Subtest Score Inconsistency of Findings
Teacher, "Right."	
Psychologist, "Because of all of his other cognitive abilities. But he is not able to because he is internally distracted.	Inconsistency of Findings Test Behavior
He can't stay focused."	
Teacher, "Right, exactly. It's hard to, you are teaching, and you know he has the problem, but there is no way - there is nothing I can do."	Classroom Behavior
Psychologist, "No, I can understand that because even on a one-to-one basis - he wasn't nearly as difficult as in the classroom."	Test Behavior
Teacher, Even in his group, he is being tutored with Chris, and he is in a group of maybe 4 or 5, and still has difficulty focusing."	Teacher Mod. of Instruct. Classroom Behavior
Psychologist, "Because he has great social skills, he is so outgoing. The minute something pops into his head,	Classroom Behavior
he has to tell you about it."	Test Behavior
Teacher, "Right."	
Psychologist, "And that's okay with me, but I can see it being a big problem in the classroom. So I can really understand where you are coming from."	Classroom Behavior

Figure 7. Novice #10 Subtest Schema/Fluent Retrieval

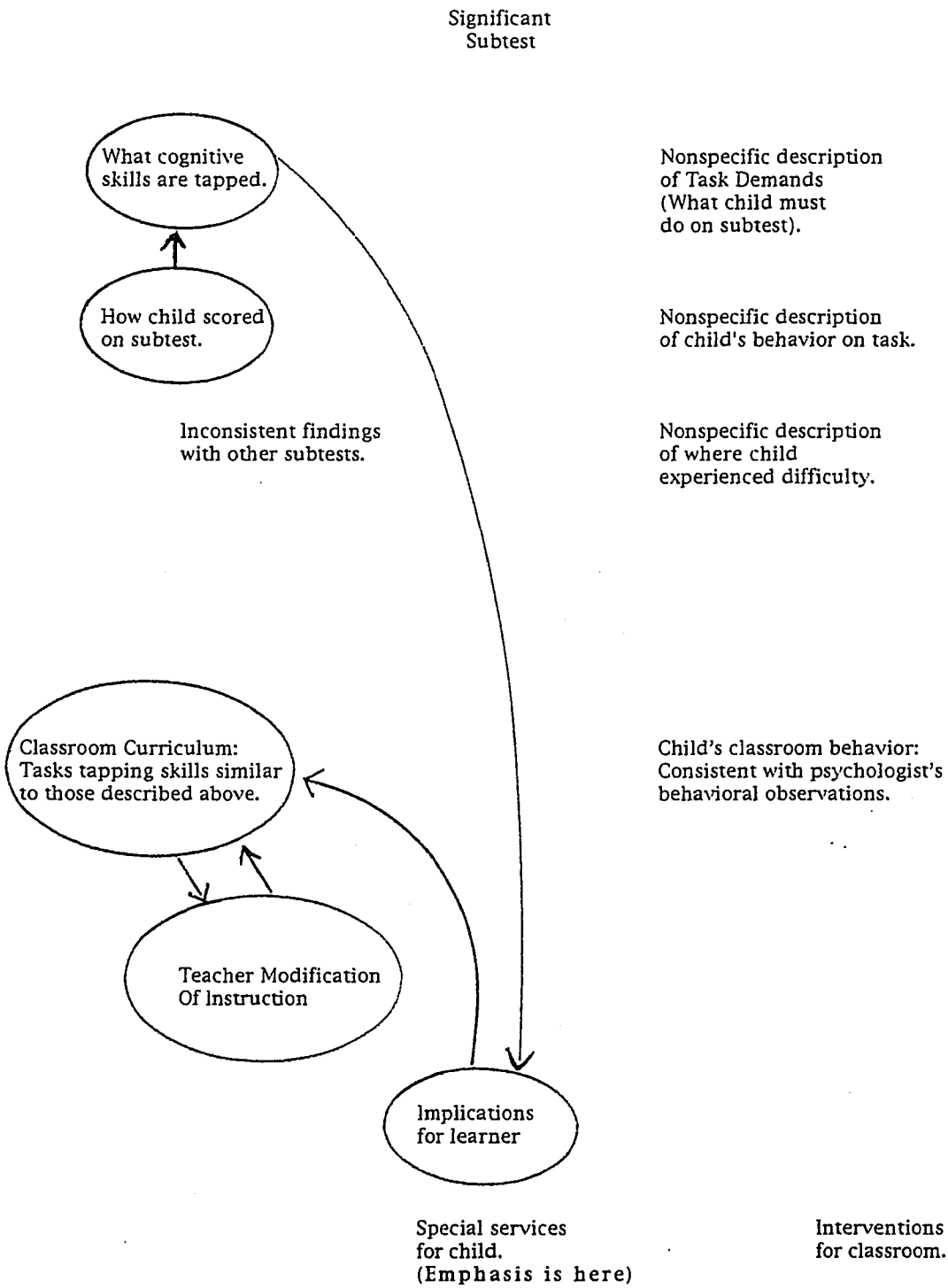
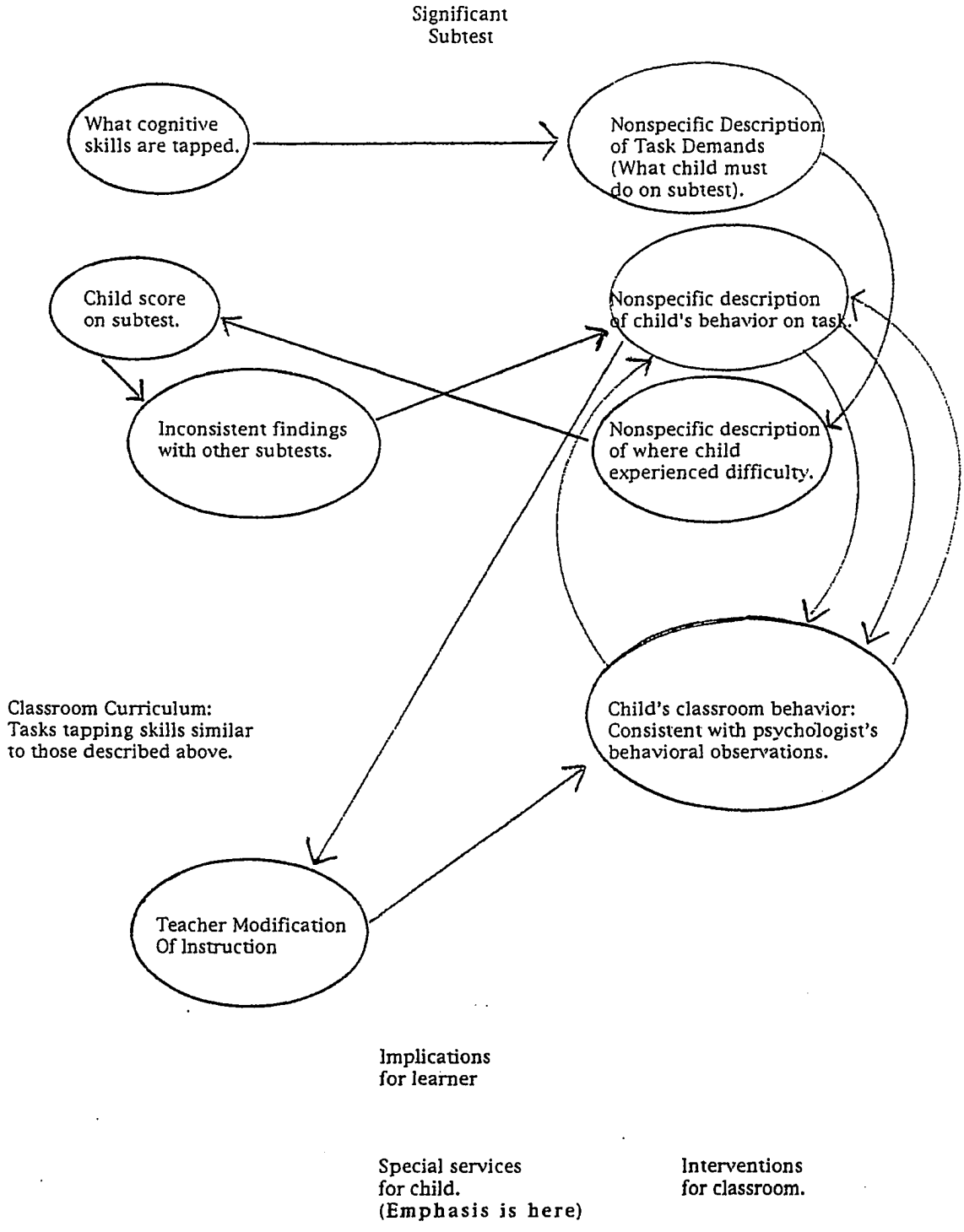


Figure 8. Novice #12 Subtest Schema/Fluent Retrieval



Figures 7 and 8 depict several important characteristics of the novices' knowledge of assessment. First, their knowledge appears to be less extensive and less connected than the knowledge of experts. Recall that the extensiveness of knowledge is represented by the number of nodes activated (i.e., circled) on the schema. Novice #10 activated 5 nodes, while novice #12 activated 8 nodes as she explained a significant result. These numbers are much less than the 17 nodes activated by expert #1 as she reviewed an important finding. Integration of knowledge is shown by the arrows on the schema and indicates the degree to which novices see the various components of the assessment process as interrelated and important. The novices clearly have fewer connections on their schemas than the expert, suggesting that they have yet to form relationships between these important ideas.

Second, the novices' retrieval of relevant information is very limited in comparison to that of the expert. Recall that fluent retrieval of pertinent knowledge is shown by the flow of lines and connections on the schema and pertains to the ability to recall important information with ease (e.g., simple facts, related ideas, problem types) (NRC, 2000). The figures show that the novices not only accessed less knowledge than the expert, but that they incorporated less immediate information (i.e., teacher's comments) into their clinical formulations and problem-solving. Novice #10 in particular had a limited flow of knowledge. She lacked detailed descriptions of the subtest and the child's behavior, and she did not interact with the teacher about the child's classroom functioning. Novice #12 incorporated more of the teacher's comments into her analyses, but she, too, did not evidence an elaborated flow of knowledge or a detailed analysis of the child's learning problems.

Finally, both novices spent less time working through the process of defining the child's learning problems than the expert. This result is demonstrated most concretely by comparing the length of all three excerpts. In the next section, the ability to identify the main learning problems of a child is examined. This skill is directly related to the abilities described above, namely recognition of common problem types in children and the manifestation of these problems during testing and in the classroom.

Ability to focus on 2-3 big ideas in relation to
the child, the teacher's concerns,
and the academic goals for the child.

The recognition of meaningful patterns in their domain is another characteristic commonly associated with expert thought (Glaser & Chi, 1988; NRC, 2000). Within the context of consultation and assessment, this characteristic pertains to psychologists' identification of the two-to-three principal findings in the child's assessment data, which includes the psychologist's test scores as well as other essential sources of information, such as teacher observations, rating scales and parent reports. The purpose of this section is to compare experts and novices in terms of their ability to identify and describe for teachers the broader issues or main findings embedded within the pattern of assessment data.

Three major finding are evident in the expert data. First, all four experts synthesized their psychological data into 2-to-3 main ideas that best reflected the child's psychoeducational strengths and limitations. Moreover, all experts organized their discussions around the principal themes/main ideas that emerged from the data. That is, experts did not present a series of isolated test results. Rather, they related each significant finding to a main idea. In doing so, they structured the discussion around these ideas - ideas that

were elaborated upon as teachers shared their observations of the child. Below are the summaries that experts presented to teachers at the end of the post-assessment meeting. These excerpts were chosen because they most clearly represent experts' ability to organize and integrate (i.e., weave) their results and teacher comments into a coherent profile of the child's academic strengths and needs.

> Expert (psychologist) #1, "So, overall, you know, the relative strength was in the visual areas, spatial areas. His weak auditory processing skills may be interfering with his ability to efficiently process directions, and I think you would verify that because that is really what we are seeing in the classroom." Teacher, "Yes, exactly." Psychologist, "His expressive language skills are variable, but academics at this point are still within the average range right now. So I am going to take the recommendations that we wrote down here for the areas of organization difficulties and helping him to pay attention to details and add them to what we have here." Teacher, "Okay."
>
> Expert #2, "But generally, I think his skills are at kindergarten level, he's ready. You know, we could have the OT look at him and if she needs to do a further assessment, we can have that done. I mean, I don't know if it is developmental or not, but just the quality, how shaky, like, almost children that have CP. Do you have any questions?" Teacher, "No." Psychologist, "Well, at least it sets your mind at ease as to whether he was ready for kindergarten or not." Teacher, "Yes."
>
> Expert #3, I think there is a lot going on here. He is definitely a kid that I am going to have to follow up. Because this inattention concerns me. I am just not at this point really comfortable making a diagnosis." Teacher, "Okay." Psychologist, "But it is definitely there." Teacher, "Yes." Psychologist, "You know, you saw it in your ratings. I've seen it. I saw it a little bit in the testing, but I think he is learning. On the plus side, I think he is learning." Teacher, "That's real good."
>
> Expert #5, "That's about it really. You'll get some of -- variations of the themes that I started here with Louise, who is going to give you part II. A little different wrinkles as far as the types of things she was assessing, but the overall picture in terms of the short-term, long-term memory being suspect, in terms of the more abstract reasoning and inferential skills being relatively weak and the processing, rote processing, being her strength. That's pretty consistent with Louise's testing."

Second, experts appeared to employ a validation heuristic as they presented their main findings to teachers. That is, they endeavored to corroborate their results with the teacher's observations of the child. For

example, experts #3 and #5 occasionally asked the teacher, "Do you see that too?" or "Do you see that in the classroom?" when they wanted to confirm their findings. Alternatively, expert #1, did not have to query the teacher directly about her thoughts because the teacher shared her ideas spontaneously throughout the meeting. Thus, the expert made short statements such as, "That would be reflective," "exactly," or "yes" after the teacher made comments that were congruent with her results. Finally, expert #2 used a slightly different approach. She simply acknowledged that she saw the same problems (e.g., poor fine motor skills) during the evaluation that the teacher reported as seeing frequently in the classroom. In a sense, she indirectly confirmed her own findings by validating the teacher's impressions of the child.

The use of a validation heuristic is an important finding because it shows that experts acknowledged that the process of assessing children is comprised of many interrelated and integral components, one of which pertains to the collection of psychological data. Specifically, with respect to their test results, experts seemed to recognize that the findings identified from such a process may not generalize to the classroom, perhaps due to the artificial nature of the testing situation. Thus, when discussing their clinical impressions of the child, experts did not focus exclusively on their own data, but utilized the teacher's perspective to enhance their diagnostic accuracy. In short, there is an acknowledgement that psychological data, in and of itself, has an indeterminate quality; thus, a teacher's substantiation of principal findings is seen as a necessary step in the diagnostic process.

Finally, there were several instances during which teachers and experts held different opinions about the proper classification for the child. When these situations arose, experts attempted to reconcile these differences

by offering a rationale for their diagnosis - a strategy that typically resulted in unanimity of thought about the child's problems. This was an issue for only two experts, as the other two had teachers who were in complete agreement with their findings. Below are excerpts from the two transcripts (#1 and #3) that contained such disagreements.

Expert #1 and the teacher disagreed about whether the child had "sequencing problems." This issue was resolved after the psychologist reframed the issue from a sequencing to an organizational problem, an issue that both parties agreed best reflected the child's learning problems.

> Psychologist, "I don't think that he has problems sequencing. He really did fine on these other areas that he might have to sequence." Teacher, "When we did the um - I know it's a little different, but when we do the DRA, the reading assessments, and I have him retell the events from the story--" Psychologist, "Yes." Teacher, "They are not in sequence when he tells them. He will tell you different things that happened, but he doesn't tell them to you--" Psychologist, "So that would be reflective. He had some difficulty with temporal sequencing - keeping a story in order. This is something that we could try to make the teachers aware of next year, because that is organizing ideas in his head, organizing thoughts in his head." Teacher, "Organization is an area that he has difficulty across the board with... He needs a lot of redirection when it comes to organization." Psychologist, "Yeah, that's a big point."... Later on the meeting the teacher commented, "But it is all organization." Psychologist, "So, that's it. We are going to star this because we are tapping into an area, organizing ideas."

Expert #3 and the teacher disagreed about whether the child's focusing and writing problems were due to LD/ADHD issues or to emotional stressors at home. This disagreement was eventually reconciled after the expert acknowledged that the child was, indeed, "inattentive" and then offered an alternative, plausible explanation for the child's problematic behavior.

> Teacher, "I conference one-on-one with the kids, and again, I will look up and he is at his desk not doing anything, playing with pencils, playing with this thing, and I have to refocus him again, and then he will start to write. And then he'll come up to me with the first paragraph and letters are still backwards. I have, he's spelling 'the', 'het.' I don't know why..." Psychologist, "I am not saying that he is not struggling. I just don't think he fits the profile of what we would call

> learning disabled. The thing that stands out most, which runs across your ratings and my testing, is his inattention." Teacher, "Right."... Psychologist, "So I wonder what is going on. Sometimes inattention can be due to emotional stress. You know when his grandparents came in and talked about the family environment, which seems pretty atypical and pretty stressful." Teacher, "Sure." Psychologist, "I want to get more information on that. Teacher, "Sure." Psychologist, "I am gong to draw grandma in and try to get that."

Ability to focus on 2-3 big ideas: Analyses of novice transcripts.

There are three main themes evident in the novice group. First, all five novices appeared to have difficulty identifying meaningful patterns in their data. That is, the novices, like the experts above, reviewed each test administered to the child and noted the significant results within each test. However, they did not relate their findings to larger issues or concerns (i.e., main ideas) -- a behavior evident in all four experts. The summaries below present the significant findings reviewed by each novice, with attention paid to the novices' skill in identifying and articulating the major themes inherent in the data. The discussion begins with novices who conducted extensive psychological evaluations and concludes with novices who administered more typical psychological batteries (e.g., WISC-III, Bender, TAT, one or two rating scales).

Novices #10, #11, and #12 conducted thorough evaluations of the children referred to them. For instance, the typical battery administered by these novices included a full intelligence test, curriculum-based measures in reading, spelling and math, a test of planning and attention (expressive and receptive), a test of phonological processing, an auditory comprehension measure (i.e., the token test), and behavior rating scales to parents and teachers. These evaluations included many significant results. However, unlike the experts, these novices presented one significant result after the other and gave equal weight to each. Consequently, the main ideas remained

submerged among the many significant findings. For example, novice #10 discussed at least ten significant, equally important weaknesses obtained from her data, such as a low frustration tolerance, poor processing speed/cognitive efficiency, short-term memory deficits, weaknesses across all academic areas (e.g., math, writing, reading), poor attentional skills (i.e., receptive & expressive), behavioral concerns (e.g., hyperactivity, impulsivity, restlessness), psychosomatic symptoms and poor self-esteem. She also identified three significant strengths, including good overall intelligence, good expressive and receptive language, and good reading comprehension. The novice did not relate her data to a main idea or primary concern, though she did periodically restate a few of her significant findings.

Novice #11 evaluated a child to rule out an ADHD diagnosis. During her meeting, she presented many significant and important results, such as problems in the areas of processing speed deficits, poor planning and shifting cognitive set abilities, hyperactivity, impulsivity, difficulty with complex instructions, below average in math, slow reading rate, and difficulty with inferential questions. Two strengths were also identified, including average intelligence and excellent expressive verbal abilities. However, she did not articulate a clear structure for interpreting the data, so the primary problems of the child were not clear. The child's main problems became apparent when the teacher began to speak about her concerns for the child in the final third of the meeting. The teacher noted that the child is "consumed with letters, they have to be like perfectly formed... lots of erasing... and she will not get off whatever it is until she is satisfied with that response." The psychologist then remarked, "she is doing these OCD-like behaviors." It is interesting to note that the psychologist had knowledge of the OCD-like behaviors from the testing and her observations of the child, but she did not appear to connect

these pieces of knowledge together until she heard the teacher's comments during the meeting.

Novice #12 evaluated a child for ADHD, an issue she clearly identified at the beginning of the meeting. This statement was helpful to the teacher because it primed her for the many results she was about to hear. The novice reviewed the child's many significant weaknesses, including inattention, poor concentration and planning ability, anxious/shy tendencies, difficulty changing cognitive set, poor writing skills, poor hand-writing skills, phonemic processing difficulties, poor grammar, and poor spelling and vocabulary. She also identified a few strengths, including intellectually bright, good verbal abilities, good reading skills and average math skills. The novice concluded the meeting by noting that the child has "attentional issues big time." However, she did not relate the child's inattention to her test results.

In contrast, novices #8 and #9 conducted fairly typical psychological batteries (e.g., WISC-III, Bender, Beery VMI, rating scales to parents and teacher). Both reviewed most of their test findings, even non-significant results, and like their counterparts above, did not identify the main ideas in their data. That is, they did not put their findings into context. For instance, novice #8 evaluated a child for poor achievement and presented all test results as those of a "normally developing learner." It was not until the end of the consultation that the teacher described the child's main issue. The teacher explained that the child "has developed certain concepts but it has been very slow... he is not retaining information... he is the only person in the classroom who is not reading... and is very low functioning." It was the teacher who integrated the results into a coherent description of the child and described the extent to which the child was struggling in the classroom and in need of

intensive academic assistance. After hearing these observations, the psychologist immediately agreed with the teacher's comments, stating "well, it sounds like he is low functioning"... and he should "get support" for next year. Thus, it seemed as if this novice, like the one above, did not make connections between her own test data and observations until she heard the teacher's observations of the child during the post-assessment meeting.

Finally, novice #9 evaluated a child for poor achievement and possible ADHD. She reviewed each subtest from the battery including an ADHD screening tool and noted all significant and non-significant results. This novice, like her colleagues above, did not articulate a clear structure for interpreting the data, so the chief learning problems of the child were not clarified.

Novices' use of a validation heuristic and reconciliation of differences about the proper classification of the child.

The second finding is that the novice transcripts do not contain a validation heuristic. That is, novices did not attempt to corroborate their results with the teacher. Moreover, even when teachers spontaneously offered corroborating comments, novices had difficulty integrating such comments into their clinical formulations and problem solving. One explanation for this finding may be that novices reviewed their results with their clinical supervisors, who may have commented upon the "validity" or soundness of the novice's findings. Thus, novices may not have felt a need to further validate their results with the teacher. On the other hand, the novices may not have developed the skills required for integrating teacher observations into their clinical formulations.

Finally, there were rarely instances during which the teacher and novice held different opinions regarding the main learning problems of the

child. The only exception to this finding was novice #8. This interaction seemed to be less of a disagreement and more of a teacher who was willing to provide information about the child's classroom functioning.

In summary, experts were much more proficient than novices in all aforementioned three areas, which include organizing the discussion around the main themes that emerged from the assessment data, using a validation heuristic, and reconciling differences of opinion regarding the appropriate classification for the child. Thus, the following hypotheses are confirmed. First, hypothesis #3 states that experts will impose a structure on the meeting to ensure that the important issues and questions will be addressed. This hypothesis refers mainly to experts' ability to delineate a structure for the meeting. The hypothesis was confirmed previously based on evidence from the quantitative data. However, in this context, the experts provided a structure for their test data, so that the important findings could be more easily understood and used to develop interventions for the child. Thus, it seems hypothesis #3 is also partially supported with the qualitative data.

Second, hypothesis #7 states that experts, as opposed to novices, will address contradictions in the testing data. Specifically, that they will attend to differences between the test data and the teacher's classroom observations or the psychologist's observations. Further, experts will explain these differences to teachers and make sure that teachers understand their explanations. This hypothesis is supported with the data from two experts (i.e., #1 and #3), who not only held different opinions from teachers about the appropriate classification for the child, but also successfully reconciled these differences by explaining their rationale for a particular diagnosis. Novices, on the other hand, were not confronted with contradictions concerning the

proper way to classify a child, since they did not identify and articulate the chief learning problems of the child. Thus, hypothesis #7 is confirmed.

Finally, hypothesis #8 states that experts, as compared to novices, will see organized patterns or a profile in the data. This hypothesis is unequivocally supported with the expert data. This data illustrates the experts' were able to both perceive meaningful patterns in the data and organize their discussions around the principal themes that emerged from the data. Novices, in contrast, did not display this behavior. In addition, hypothesis #8 states that the differences between the heuristics of experts and novices will be examined. These data show that experts employed a validation heuristic as they presented their findings to teachers. This heuristic allowed experts to corroborate their test results with the teacher's observations of the child. Novices did not employ a validation heuristic or any other discernable problem-solving strategy. Thus, hypothesis #8 is confirmed.

Development of interventions and the

types of services recommended.

In this final section, analyses concerning the types of special services recommended for children by experts, as compared to novices, are presented. In addition, the manner in which experts and novices develop interventions for children, particularly the degree to which teachers are invited to contribute to this process is discussed. Finally, the extent to which teacher involvement in the development of classroom interventions relates to the likelihood that such interventions will be implemented as directed is considered.

Two important findings emerge from the expert data. First, as they discussed their recommendations with teachers, three of four experts emphasized classroom interventions (e.g., modification of instruction) over

special services (e.g., resource room), while one recommended only special services for the child. It was expected that all experts would emphasize classroom interventions over special services when discussing their recommendations, since such interventions are generally viewed as a primary educational intervention or goal for the child. The transcripts, however, provided no answer as to why classroom interventions were not recommended by one expert.

Second, all experts, even the expert who recommended only special services, developed their interventions in conjunction with teachers. That is, the experts discussed various treatment options with teachers and were especially attentive to the teacher's willingness to introduce a specific treatment into the classroom or to follow through with a particular service. Furthermore, the process of developing interventions was largely similar for most experts. Specifically, after the psychologist had carefully worked through the process of defining the problem, he or she was then able to generate one suggestion after the next until the dyad reached an agreement about how to intervene with the child. For instance, as expert #1 was going through her results, she frequently offered suggestions that might be used in the classroom and consistently waited to hear the teacher's response to her suggestions. In the excerpt below, the teacher was receptive to the numerous classroom interventions offered by the psychologist, and how she indicated a preference for trying the recommendations in her classroom before referring the child to the Committee for Special Education.

> Psychologist, "So, I am going to take the recommendations that we wrote down here for the areas of organization difficulties and helping him to pay attention to details and add them to what we have here." Teacher, "Okay." Psychologist, "Auditory processing skills and attentional skills need to be monitored to determine the effect they have. And the strategies that you are already doing that we talked about before he was even tested: Preferential seating, give a command to him before he, you

> know, call him by name before you ask him a question, present directions clearly - they need to be broken down and repeated." Teacher, "Absolutely, yes." Psychologist, "You're doing that? Encourage him to indicate when he doesn't understand." Teacher, "Uhh. We try. (Laughter). Psychologist, "Yeah. That is a tough one." After a few brief comments, the psychologist remarked, "At this point we are not going forward to the CSE." Teacher, "Okay." Psychologist, "I think we will just - because everything is still--" Teacher, "We now have all of these measures from the testing and we can use that in our planning and teaching--" Psychologist, "Exactly."

Experts #2 followed a similar pattern of offering many suggestions for the child - a tendency that engendered a willingness in the teacher to try the recommendations in the classroom. Indeed, these two examples indicate that teachers are highly receptive to the prospect of working together with psychologists in the development of classroom interventions for children.

> Psychologist, "He comes over there and he's not sure what to do... so what you can do sometimes, and I know you've repeated it, make sure he's looking at you, like hold his face when you speak to him..." Teacher, "Okay." Psychologist, "And also, sometimes ask him to tell you what you just said. So this way you know he understands." Teacher, "Okay, right." Psychologist, "Say, 'What did I just ask you to do now?' or 'What do you think you're supposed to do?' after you've given the class instructions." Teacher, "Okay." Psychologist, "And so maybe then, you'll know whether or not he understands you, whether he can repeat it or not." Teacher, "Alright, that's great."

An excerpt from the transcript of expert #3, related to the development of classroom interventions, was provided earlier. In that discussion, the psychologist was successful in developing an intervention that was both acceptable to the teacher and likely to be successful in managing the child's problematic behavior. But this conversation was different from the two above, in that the teacher was initially reluctant to introduce the psychologist's recommendation into the classroom. As discussed earlier, this expert developed an intervention for a child with attentional difficulties. She recommended using behavior modification and reinforcing the child immediately after he completed half of the class assignment, as opposed to waiting for him to complete the whole assignment. The teacher was at first

unsure that she would be able to keep up with an "immediate" reinforcement schedule in her busy classroom. However, after the psychologist suggested a simple way to run the intervention, noting what little time would be required of the teacher, the teacher finally agreed to try the behavioral procedure. In fact, she indicated that she might try the procedure with another child in the class who seemed to require more "immediate" reinforcement as well.

Expert #5 recommended only special services for the child. This expert presented his recommendation to the teacher and then listened to what the teacher had to say before formalizing his recommendation (i.e., sending their report to CSE). Below is the excerpt from expert #5, as he reviewed with the teacher his recommendation for the child.

> Psychologist, "She seems like the kind of kid who will profit from resource room." Teacher, "Yes." Psychologist, "You know, it's not going to be a sort of band-aid for her." Teacher, "No." Psychologist, "She'll probably--" Teacher, "She needs the repetition." Psychologist, "—see some good results." Teacher, "Yes." Psychologist, "Repetition, having it explained to her, confidence. All the things the resource room is supposed to do for a kid." Teacher, "Yes." Psychologist, "I think she will be helped--" Teacher, "Yes." Psychologist, "—in all of those things." Teacher, "I agree."

With respect to the novice data, two findings are evident. First, when discussing their recommendations with teachers, two novices recommended classroom interventions in addition to special services and three novices recommended special services only. One of the two novices who recommended classroom interventions discussed them with the teacher. For instance, novice #11 evaluated a child who was classified as having "OCD-like behaviors." In the excerpt below, she noted that the child certainly qualifies for special services, but that there were interventions that could be utilized in the classroom as well. She then described the interventions to the teacher.

> Psychologist, "Cause I felt some of the recommendations, what we could do besides, yes, I think she meets the qualifications for a child that has a learning disability, and I would like her to continue receiving the

> support from you. But even just like things within the classroom, preferential seating, like sitting near the teacher, being close to that, the teacher, shortening her assignments, giving her the additional time so that she can process her information and have time like okay, even verbally rehearse her ideas before putting them on paper. Verbally rehearse, this is what I am thinking, giving her those planning pages." Teacher, "Right."

Novice #10 did not discuss classroom interventions with the teacher. In the excerpt below, the novice referred the teacher to the psychological report after the teacher asked the novice to elaborate about the interventions.

> "Psychologist, "So it came to the point where we were going to decide what we are going to recommend for "Nate." I collaborated with my supervisor, and I would also like to hear your feedback. We really feel that he needs more attentive support." Teacher, "I definitely agree." Psychologist, "Okay. And some testing modifications that kind of help him on more standardized tests, maybe shortening his tasks, asking him to paraphrase information frequently cueing him. Actually, in the report, it lists a bunch of strategies that I found are effective with children that have processing deficits, and short-term memory deficits." Teacher, "Okay, Would you be able to show those to me later on?" Psychologist, "You can get a copy of the report." Teacher, "Okay." Psychologist, "Everything is in there."

Second, novices developed their recommendations with their supervisors prior to the post-assessment meeting. They then presented these interventions to teachers after they were finished discussing their results and did not generate interventions with teachers during the meeting. Below is an excerpt from novice #8 as she discussed her recommendations with the teacher. The excerpt shows that the novice did not elaborate about her recommendations and that she did not explore the teacher's views regarding the appropriateness of the recommendations. A review of the transcript indicates that it was the teacher who was able to guide the discussion towards the development of a more appropriate intervention (e.g., more intensive assistance).

> Teacher, "He is not making progress." Psychologist #8, "So he will certainly be given some sort of service for next year." Teacher,

> "Right.... Exactly so we are able to find some inroads to help him along." Psychologist, "Definitely." Teacher, "I think you're right. I think the recommendation should be some assistance next year." Psychologist, "Definitely."

In summary, this section showed that this group of experts emphasized classroom interventions over special services, indicating that they view classroom interventions as a primary means of addressing the child's learning problems. In addition, experts developed recommendations with teachers during the meeting. Moreover, they generated interventions spontaneously, providing a rationale for their interventions and modifying proposed interventions when needed. Experts also attended to the teacher's receptiveness toward a suggested intervention. In short, experts were skilled at involving teachers in the discussion about recommendations, which may increase the likelihood that interventions will be implemented as directed. Novices, on the other hand, developed their recommendations with their clinical supervisors prior to the teacher meeting and presented their recommendations to teachers, who were less involved in the development of interventions. Novices also do not have stored solutions to the learning problems of children and generated few modified interventions when needed. Thus, there is support for hypothesis #5, which states that experts, as compared to novices, will assume responsibility for prescribing remedial interventions for children that are acceptable to teachers and, thus, have an increased likelihood of being implemented in the classroom. A summary of the results that support the quantitative and qualitative hypotheses are presented in Table 18.

Table 18. *Summary of Quantitative and Qualitative Results Supporting the Hypotheses for this Study*

Hypotheses	Quantitative Analyses	Qualitative Analyses
Ho:1 Share info about child's background. behavior, individual characteristics; however, psychologists will make more of these statements than teachers.	CAR-R; analyses of frequency data of 12 psychologists and 12 teachers.	
Ho: 2 Foster positive working relationship, as shown by more Positive Validation ("PV") statements than Negative Validation statements. Teachers will make more PV statements than psychologists.	CAR-R; analyses of 12 psychologists and 12 teachers.	
Ho: 3 Psychologists will provide a structure for the meeting, as shown by the number of Process Overt ("PO") statements. Psychologists will make more PO statements than teachers. In addition, expert psychologists will make more statements on item 1 of Appendix G, *Patterns of Expert Communication Behavior in Consultation and Assessment.*	CAR-R; analyses of 12 psychologists and 12 teachers.	Ability to focus on 2-3 ideas; experts impose a structure on their data so that the findings may be more easily understood by teachers.

(table continues)

Table 18 (continued)

Hypotheses	Quantitative Analyses	Qualitative Analyses
Ho: 4 Psychologists will explain their assessment results to teachers, as shown by the large number of Specification statements as well as by a moderate number of Test Description and Test Results statements.	CAR-R; analyses of 12 psychologists and 12 teachers.	
Ho: 5 Psychologists will assume responsibility for prescribing interventions for children that are acceptable to teachers. This behavior will be shown by statements in the Plan subcategory. In addition, experts will make more statements on item 4 of Appendix G, *Patterns of Expert Communication Behavior in Consultation and Assessment* and item 5 on Appendix H, *a Cognitive Model of Consultative and Assessment Explanations by Experts.*	CAR-R; analyses of frequency data of 12 psychologists and 12 teachers.	Development of Interventions and the Types of Services Recommended; experts developed interventions spontaneously with teachers and attended to teachers' receptiveness toward a suggested intervention.
Ho:6 Experts, as compared to novices, will give complete explanations of the relevant test data, as shown by the criteria outlined on Appendix H, *a Cognitive Model of Consultative and Assessment Explanations by Experts.*		The Consultative and Assessment Explanations of Experts vs. Novices; experts gave clear, cogent and more complete explanations as compared to novices.

(table continues)

Table 18 (continued)

Hypotheses	Quantitative Analyses	Qualitative Analyses
Ho: 7 Experts, as compared to novices, will address contradictions in the test data and contradictions between the test data and the teacher's classroom observations or the expert's observations.		Ability to focus on 2-3 ideas; experts addressed contradictions between test data and teachers' understanding of the child's problems.
Ho:8 Experts, as compared to novices, will see organized patterns in the test data. In addition, expert/novice protocols will be examined for specific rules of thumb or heuristics to distinguish areas of agreement and disagreement among different aspects of test data.		Ability to focus on 2-3 ideas; experts identified meaningful patterns in the data and organized their discussions around these main findings. Experts also used a validation heuristic to confirm their test results with teachers.

CHAPTER 5

Discussion

Overview

The purpose of this study was to elucidate the communication patterns that emerged during a consultation meeting in which a school psychologist and a teacher discuss the psychoeducational assessment results of a child referred by the teacher for academic underachievement. An additional purpose of the study was to examine the extent to which experience in the area of school-based consultation and psychoeducational assessment influences the verbal behavior and thinking patterns of school psychologists. Thus, the verbal behavior and cognitive patterns of psychologists with seven or more years of consultation and assessment experience (i.e., "experts") were compared to the verbal behavior and cognitive patterns of psychologists with less than one year of experience (i.e., school psychology interns or "novices"). Finally, the current study was intended to extend previous research in the area of school consultation, which has focused mostly on process-related variables (e.g., who controls/directs the consultative discussion), to the relative exclusion of issues relating to content (i.e., what exactly was discussed during the meeting) and context (i.e., the specific reason the teacher desired consultation). Quantitative and qualitative analyses were conducted to address the aforementioned research questions. These results are discussed below. In addition, the theoretical framework of the current study as well as the strengths and limitations of the study's methodology are reviewed. Directions for future research are also addressed in that discussion. Finally, the theoretical and educational implications of this study are presented.

Quantitative Analyses

CAR-Revised: Psychologists and Teachers

In this section, the quantitative analyses involving the participants' usage patterns of the Consultation Analysis Record - Revised (CAR-Revised) are discussed. Two major findings emerged from the analyses of teacher and psychologist verbal behavior on the CAR-Revised. First, teachers and psychologists shared many important responsibilities during the consultative meeting, including contributing to the content of the conversation, encouraging and maintaining a positive working relationship, and asking questions of their partners when statements were unclear. Second, psychologists had a unique role in the consultative partnership - that of educator. These main findings are discussed below.

Shared responsibilities.

Although psychologists spoke considerably more than teachers, both groups shared many important responsibilities during the consultative meeting. First, both teachers and psychologists contributed to the content of the conversation. That is, both groups offered their perspective on the child's behavior, individual characteristics, and background environment (i.e., family dynamics). For instance, a teacher might comment upon how a child's tendency to play with various objects in his desk (i.e., behavior) and inattention (i.e., individual characteristic) compromise his academic performance in the classroom. Likewise, the psychologist might comment that the same child's distractibility (i.e., individual characteristic) and tendency to ignore "signs" during mathematical computation tasks (i.e., behavior) undermined his performance on an achievement test. This finding suggests that teachers and psychologists recognized the unique contributions that each other could make to the consultative problem-solving process. Second, data

from the Process Codes show that both groups fostered and maintained a positive rapport during the meeting. This interpretation is supported by the fact that the number of teacher (41%) and psychologist (7%) Positive Validation Statements (e.g., "Yes, I see," "umhmm," "I agree") outweighed the number of teacher (.8%) and psychologist (.3%) Negative Validation Statements (e.g., "No, I disagree"). Thus, teachers and psychologists generally supported and encouraged each other to share their thoughts on the child. Finally, data from the Control Codes show that both teachers (96%) and psychologists (98%) made more emitter statements than elicitor statements (teachers 4%; psychologists 2%). This finding suggests that both groups spent more time describing their impressions of the child and elaborating upon their partner's ideas than asking questions of their partners. This finding also indicates that both groups asked questions at a relatively equal rate; thus, both professional groups appeared comfortable asking for clarification of a statement when needed, and neither group attempted to exert control over the meeting by asking questions in order to change the direction of the conversation. These three findings are consistent with the results of Rolih (2001).

Unique roles of the psychologist.

The data clearly show that an important role of the psychologist during the post-assessment meeting is that of educator. This role is most evident in the large number of Specification Statements (Content Code) made by psychologists (88%). This finding indicates that psychologists spent most of their time explaining, elaborating, and defining what had been observed during the assessment process. Furthermore, when psychologists' Specification data are combined with their data from the Test Description, Test Results, Behavior and Individual Characteristics Subcategories, it is apparent

that psychologists went to great lengths to describe their assessment findings and to relate their findings to the child's academic problems. Teachers also made a large number of statements in the Specification Subcategory (52%), reflecting their chief responsibility of describing the child's classroom behavior and achievement. However, they did not make as many of these statements as psychologists. Further, when teachers' utilization of statements in the Positive Validation Subcategory (41%) is compared to that of psychologists (7%), it is clear that teachers spent more time indicating comprehension of and agreement with psychologists' statements than describing their own impressions of the child. In other words, teachers seemed to have a more passive role in the educational process than psychologists. This finding of the importance of educating the teacher about the significance of the assessment data is consistent with the results of Rolih (2001) and Tryon (2003). Tryon found that therapists who provided information to or educated the client about his or her problems were more likely to facilitate client engagement in the therapeutic process. In the context of the present study, psychologists who were able to educate the teacher about the nature of the child's learning problems were more likely to engage the teacher in the consultative problem-solving process.

In addition, psychologists assumed responsibility for providing a structure for the meeting to ensure that the important findings and issues would be addressed. This interpretation of the data is supported by the small but important number of Process Overt statements made by psychologists (n=66) as compared to teachers (n=9). Statements such as "I would like to begin by having you review why you referred Nate for an evaluation and then I will discuss what I did with him" illustrate this concept. Further, in making such statements, psychologists indicated that they wanted to guide the problem-

solving process, though in this context it was more of an educational process. This finding is consistent with the results of Rolih (2001).

Finally, psychologists assumed responsibility for prescribing interventions to teachers who were having difficulty working with a child, as shown by the number of psychologist statements in the Plan Subcategory. Interestingly, teachers made a relatively equal number of statements in this subcategory. However, the nature of these responses was quite different for teachers and psychologists. For instance, when teachers spoke about interventions, they referred to interventions they had previously tried in the classroom and the degree to which the intervention was effective in ameliorating a problem behavior. In contrast, when psychologists spoke about interventions, they focused on interventions that had not yet been tried by the teacher. They also tended to speak about possible interventions in terms of their relative efficacy in relation to a particular problem (e.g., "Behavior management can improve a kid's attention."). This result is also consistent with the findings of Rolih (2001).

CAR-Revised: Experts and Novices

The quantitative analyses concluded with a comparison of expert and novice communication behavior on the CAR-Revised. For the purposes of these analyses, the full expert and novice transcripts were divided into equal thirds and then comparisons were made between the two groups. Three main findings emerged from these analyses. First, the data from sections one and two suggest that teachers with experts had a much more active role in the consultative process than teachers with novices. That is, teachers with experts spent more time describing their sense of the child's learning problems and less time indicating agreement with the psychologist. Conversely, teachers with novices spent less time describing their observations of the child and

more time indicating agreement with the psychologist. This finding suggests that experts viewed teachers as a vital part of the consultative problem-solving process and, thus, encouraged teachers to contribute their knowledge of the child to the discussion.

Second, the data from section two indicates that experts embedded their comments about the child's behavior within their comments about the child's assessment results. This suggests that experts not only recognized the interrelatedness of these two entities, but that they also wanted to emphasize this connection to teachers. In contrast, novices described the child's behavior and test results separately. In other words, they did not build for teachers a meaningful connection between these two important aspects of the assessment process. This tendency indicates that novices may not yet view these two entities as related or that they may not have developed the skill required to integrate these two distinct components into a more elaborate representation of the child's learning capabilities.

Finally, the data from section three indicate that novices, as compared to experts, were less active participants at this final stage of the meeting. This result may reflect the teachers' desire to finally communicate to novices their ideas about the child's learning difficulties and the novices' openness to hearing their views. However, this difference in communication behavior also appears to have impacted upon the development of interventions for the child. That is, at this final stage of the meeting, experts were more actively engaged in the process of developing interventions with the teacher and were actively soliciting teacher feedback during this time. Novices, on the other hand, were actively listening to teacher impressions of the child and, therefore, had less time to develop interventions with the teacher. Consequently, novices quickly presented their recommendations for the child at the very end of the meeting

and had little time to solicit teacher feedback about the proposed interventions. This tendency might have implications for the implementation of recommended interventions for the child.

Qualitative Analyses

In this section, the main findings and implications are discussed from the *Patterns of Expert Communication Behavior in the Context of Consultation and Assessment* and a *Cognitive Model of Consultative and Assessment Explanations of Experts.* In addition, the implications of the four major findings from the case study analyses of the expert and novice transcripts are reviewed. Finally, a concluding statement is offered concerning the principal results of this study.

The Patterns of Expert Communication Behavior in the Context of Consultation and Assessment

The *Patterns of Expert Communication Behavior in the Context of Consultation and Assessment* offers a sequential outline of the five major areas that experienced psychologists address when debriefing teachers about the assessment results of a child referred for academic underachievement. The five principal areas or categories reflect the communicational patterns of all four experts and include (1) provide the teacher with an outline of the meeting, (2) review the referral question, (3) review important findings from the evaluation, (4) summarize the 2-to-3 major findings and develop recommendations for the child, and (5) offer a concluding comment. For instance, all experts began the meeting by providing teachers with a structure for the meeting and by encouraging them to ask questions when explanations were unclear. Next, they reviewed the reasons the child was referred for an evaluation and presented the significant findings from their evaluation of the child. As they presented their findings, experts identified and emphasized the

2-to-3 critical themes in which the significant results were embedded. That is, experts organized their discussions around the 2-to-3 main ideas or principal themes that emerged from the data. Once the main learning issues had been identified, experts developed with teachers educational interventions for the child. Experts explored which interventions had been utilized previously in the classroom as well as the extent to which a given intervention was successful in managing the child's learning problems. Experts then used this information to develop new strategies for working with the child in the classroom.

The *Patterns of Expert Communication Behavior in the Context of Consultation and Assessment* further illustrates the educative role that psychologists assume when consulting with teachers about a child with learning difficulties. That is, experts provide explanations of and integrate their assessment findings, explain the implications of those findings, connect the findings to larger issues or concerns for the child, and validate their interpretations with teachers. Experts have a similar task with respect to classroom interventions.

A Cognitive Model of Consultative and Assessment Explanations of Experts

As noted above, one of the main purposes of the post-assessment meeting is to review the significant findings from the evaluation and to explain the implications of those findings to the teacher. The five main components of such an explanation are delineated in the *Cognitive Model of Consultative and Assessment Explanations of Experts*, which reflects the consultative and assessment explanations of all four experts. The five components that comprise the model include (1) overview of test from which the significant finding was obtained, (2) description of the significant subtest, (3) relationship of significant finding to classroom instruction (4) educational

implications for the child, and (5) development of interventions. These five components reflect the two critical domains of school-based assessment: the child's behavior/performance during the evaluation and the child's behavior/performance in the classroom. That is, experts not only explained how the child scored and behaved during the evaluation, but they also attempted to forge meaningful connections between their test data and the classroom. This practice allowed psychologists to explain their assessment results to teachers in a meaningful way and underscores further the educational function that psychologists have during the post-assessment meeting. However, this process of relating test data to the classroom also highlights an additional and equally important function of psychologists - that of problem solver. School psychologists engaged in a problem-solving process as they attempted to generalize their results to the classroom. In other words, as school psychologists endeavored to validate their clinical impressions of the child with the teacher's classroom observations, they were working through the process of defining the child's main learning problems. This problem-solving process is elaborated upon below as the four major differences emerging from the analyses of the expert and novice transcripts are discussed.

Four Major Findings from the Case Study Analyses of Expert and Novice Transcripts

The consultative and assessment explanations of experts.

The results from this analysis highlight several important differences between experts and novices as they provided consultative and assessment explanations to teachers. With respect to the first domain of school-based assessment (i.e., child's behavior/performance during the evaluation), experts offered detailed explanations of significant subtests/cluster scores to teachers, describing the cognitive skills a subtest measures and the items that comprise

a subtest. Experts also provided numerous and specific examples of child behavior on the subtest and explained how the behavior influenced the child's subtest score. In addition, experts described how they intervened when the child experienced difficulty with a task.

These behaviors suggest that experts performed an educative function during the post-assessment meeting. The many examples of child behavior and subtest items allowed experts to impart information to teachers in a meaningful way. That is, through their connected, detailed, and elaborated explanations, experts helped teachers to more easily comprehend the implications of the test scores and the relationship of the scores to the educational strengths and needs of the child. These behaviors also allowed experts to convey to teachers a clear picture of their experience with the child. In a sense, the experts allowed the child to "come alive" through their rich descriptions of the subtest and child behavior.

The data also suggest that experts engaged in a problem-solving process as they reviewed their assessment results. That is, as experts described the child's subtest behavior in a markedly detailed and analytical fashion, they sought to identify specific behavioral patterns within the subtest. Experts also noted whether the child's performance on the significant subtest was consistent with his or her performance on other areas of the evaluation that measured similar skills. These behaviors demonstrate that experts actively searched for behavioral and cognitive patterns both within a subtest and across the various instruments administered to the child.

During the second part of the consultative and assessment explanation, experts attempted to link or generalize their assessment data to the classroom. This behavior is evidenced in all four expert transcripts and is comprised of three main components: (1) links to the child's classroom behavior, (2) links

to the child's classroom achievement, and (3) interventions that might alleviate the child's learning difficulties. Experts typically did not touch upon all three areas, opting instead to focus on either the child's classroom behavior or classroom achievement and interventions that might be helpful in managing the child's learning issues. However, they did attempt to obtain "credible information from various third-party sources such as teachers, family members, and school or employment records" (American Psychological Association, 1999)." This behavior is believed to "enhance the quality of psychological assessment" and is consistent with the criteria for sound testing practices outlined in the *Standards for Educational and Psychological Testing* (APA, 1999). Furthermore, experts demonstrated analytical or problem-solving behavior as they systematically examined, with the help of the teacher, the various pedagogical, curriculum, and behavioral factors that might be contributing to the child's poor school performance. They then used this information to develop appropriate educational interventions for the child.

Interestingly, there are many similarities between Leinhardt's (2001) model of instructional explanations and the cognitive model of consultative and assessment explanations of experts. Both explanations have the central goal of answering an explicit or implicit question and contain a system of essential subgoals that when achieved produce an explanation (Leinhardt). Specifically, both establish a significant problem (i.e., referral question/teacher's concerns) and have a useful set of examples available (e.g., child behavior on subtest, example of subtest items). Both complete the explanations by identifying a core set of principles (e.g., sequencing problems appear on subtests X and Y, not A and B), though consultative explanations tend to emphasize consistent findings or a meaningful pattern of scores. Both

attach new information that is generated (e.g., organizational problems manifested during the assessment) to prior knowledge of the same sort (e.g., organizational problems seen in the classroom). Finally, both attempt to resolve errors in thinking or disagreements concerning the nature of the child's learning problems (e.g., the child has organizational problems, not sequencing problems). Leinhardt noted that good, helpful explanations encourage focused and meaningful conversations, which, in turn, facilitate comprehension of important concepts at a deeper level. The same can be said about the consultative and assessment explanations of expert psychologists.

Finally, expert explanations were organized around their own assessment data as well as the child's classroom functioning. This behavior suggests that experts not only wanted to provide teachers with a meaningful and relevant description of the main learning problems of the child, but that they also wanted to enlist the teacher's help in defining the problem. In short, experts appeared to recognize that the teacher's "validation" of their inferences is an integral component of the assessment process.

The consultative and assessment explanations of novices.

Novices provided consultative and assessment explanations in a remarkably consistent fashion, though their explanations differed considerably from those of experts. The most important distinction between experts and novices is that novices tended to focus on only one of the two domains of school-based assessment: the child's behavior and performance during the evaluation. While discussing the child's assessment results, novices' descriptions of subtest/cluster scores were often highly technical, nonspecific, and included few examples of what children were expected to do on a task. Novices also did not offer specific examples of child behavior on the task. In addition, novices did not discuss their results in an analytical manner

or identify meaningful patterns in their data. Finally, novices did not attempt to generalize their findings to the classroom, nor did they endeavor to validate their clinical impressions of the child. These behaviors may have interfered with the novices' ability to convey information to teachers in a meaningful way and may have prevented teachers from constructing an accurate picture of the child's academic strengths and needs.

The behavior of novices unequivocally suggests that they had the intention of educating the teacher about their significant results and the implications of those findings. Indeed, novices presented their significant findings one after the other and attempted to clearly explain the implications of each result. But their explanations did not have the same characteristics as those of experts. Novices may have had difficulty with the educational process because they had not yet constructed for themselves a meaningful representation of the various subtests/tests that they administered to the child. Another factor to consider is the training process itself. Novices reviewed their assessment results and refined their hypotheses with their supervisor prior to meeting with teachers. Thus, novices may have considered it somewhat redundant to proceed, again, with teachers through the problem-solving process, especially after their supervisors had validated their interpretations of the main learning issues of the child.

Elaborated and integrated knowledge base

and fluent retrieval of relevant information.

The data from this section highlight three important characteristics of the experts' knowledge of assessment. First, experts evidenced a deep and integrated knowledge base, which is a fundamental characteristic of expert thought (Glaser & Chi, 1988 NRC, 2000). Depth of knowledge refers to extent to which experts understand and appreciate the various aspects of the assessment

process. Integration of knowledge refers to the connections among the various ideas or concepts within the experts' knowledge base. It indicates that experts view all aspects of the assessment process as interrelated. Thus, experts acknowledge that the child's behavior impacts upon the child's cognition/achievement and that environmental influences (e.g., family dynamics, classroom environment, testing situation) may affect the child's test scores and academic achievement. This deep and integrated understanding of assessment prompted experts to fully explore, with the help of the teacher, the various factors that might be impinging upon the child's achievement.

Second, experts were able to retrieve their extensive knowledge fluently (i.e., effortlessly), which is also a core feature of expert thought (Glaser & Chi, 1988 NRC, 2000). Thus, experts were able to recall with relative ease the features of typical problem types in children, individual subtest facts, and the relationship among the various subtests. This ability allowed experts to devote their conscious attention to considering the various issues under discussion and to actively seek and incorporate the teacher's own viewpoints into their clinical formulations.

Finally, experts spent a good deal of time problem solving or methodically working through the issue of identifying the child's true learning difficulties. Experts systematically considered both their own test data and the various classroom factors that might be adversely affecting the child's achievement. Experts did not begin to discuss possible interventions until the learning problems of the child had been clearly defined. This tendency to size up problems and identify patterns before attempting solutions is another integral element of expert thought (Glaser & Chi, 1988 NRC, 2000).

Three important distinctions were evident in the knowledge base of novices. First, novices had a less extensive and less integrated knowledge base

than experts. This suggests that novices, as compared to experts, had a less principled understanding of assessment and had yet to recognize that the various aspects of the assessment process are related. Second, novices' retrieval of relevant information was limited in comparison to that of experts. Thus, novices not only accessed less knowledge than experts, but they also incorporated less immediate information (i.e., teacher ideas) into their clinical formulations. This behavior suggests that novices were not yet able to recognize how the various pieces of their own data fit together, which may have interfered with their ability to effectively explain their results to teachers and to incorporate the teachers' comments into their clinical formulations. In short, it appears that the novices' conscious attention was devoted more to interpreting and explaining their own findings than to weaving a rich, multifaceted picture of the child's academic capabilities.

Finally, novices spent less time than experts working through the problem of defining the child's learning problem. Clearly, the data from the expert fluency schema (see Figure 6) and transcript (see Table 15) show that the expert engaged in a longer discussion about the child's learning problem than the novices (see Figures 7 and 8; Tables 16 and 17). Furthermore, closer scrutiny of the expert (see Table 15) and novice (see Tables 16 and 17) data indicate that the expert engaged in a more comprehensive and analytical review of her assessment data than the novices. For instance, she went into detail about the child's behavioral patterns and where she would expect to see certain problem types manifested during the testing and in the classroom. She also sought the teacher's observations of the child and was able to use the teacher's comments to refine her own ideas about the nature of the child's difficulties. Novices, in contrast, were less analytical in terms of inspecting their own data and did not integrate the teachers' observations into their

interpretations. Taken together, these findings suggest that, within this narrow context, the hallmark characteristics of novice thought include a limited and less integrated knowledge base as well as difficulty with the fluent retrieval of relevant knowledge. These characteristics, in turn, affect the degree to which novices seek out discrepancies and patterns of convergence in their own data, incorporate information from other sources, and provide meaningful and detailed explanations of their results to teachers.

Ability to focus on 2-3 big ideas in
relation to the child, the teacher's concerns,
and the academic goals for the child.

The data from this section indicate that experts and novices differed with respect to their ability to identify and describe for teachers the broader issues or main findings embedded within the pattern of assessment data. First, experts not only synthesized their assessment results into two-to-three main ideas that best reflected the child's main academic strengths and needs, but they also organized their discussions around these ideas. In doing so, experts weaved their results and teacher comments into a coherent profile of the child's academic capabilities. This finding is consistent with the work of Glaser and Chi (1988), who found that experts perceive large, meaningful patterns in their domain and that they generally see patterns not discernable to novices. Second, experts employed a validation heuristic as they presented their results to teachers. In other words, experts attempted to validate or corroborate their results with the teacher's observations of the child. This suggests that experts recognize the indeterminate nature of psychological data and that the teacher's substantiation of principal findings is a necessary step in the problem-solving process. Finally, experts endeavored to reconcile differences of opinion between themselves and the teacher concerning the

appropriate classification of the child. Experts reconciled these differences by reframing the issue to reflect a classification schema put forth by both parties or by offering an alternative, plausible explanation for the child's learning difficulties.

Novices, on the other hand, did not identify meaningful patterns in their test data. In addition, novices did not employ a validation heuristic, nor did they attempt to validate their results with the teacher's classroom observations of the child. Further, when teachers spontaneously offered a validating comment, novices did not integrate such comments into their clinical formulations. As noted earlier, novices may not have felt the need to validate their test results, since their results were, in effect, validated by their clinical supervisors prior to the post-assessment meeting. On the other hand, novices may not have developed the requisite skills for integrating teacher comments into their diagnostic formulations. Finally, novices were rarely confronted with differences of opinion regarding the proper classification of the child; thus, their skill in this area could not be examined.

Taken collectively, these findings highlight several principles that psychologists can use when reviewing their psychological data with teachers. First, the assessment data require a context or relationship to the primary learning issues of the child. This strategy enables the teacher to develop a more principled understanding of the significance of the results, which in turn, allows him or her to more easily identify the interventions that might be most effective in ameliorating a child's learning difficulties. Second, the data have to be substantiated with other sources (e.g., teacher, other test scores). This process not only validates the psychologist's own findings, but it also rounds out the clinical picture of the child, thereby enhancing the diagnostic accuracy of the practitioner. Finally, differences in opinion between teachers

and psychologists regarding the main findings or implications of the findings have to be resolved. Without resolution, it is difficult to move the conversation forward to a discussion of possible interventions for the child.

The development of interventions and the types of services recommended.

Two principal differences emerged between experts and novices with respect to the development of interventions and the types of services recommended for children. First, three of the four experts emphasized classroom interventions over special services (e.g., resource room) and only one expert recommended special services without classroom interventions. This finding suggests that experts see classroom services as a primary intervention for assisting the child and view special services as an adjunct to classroom interventions. Second, all experts developed their interventions with teachers and evidenced a similar thinking pattern during this process. That is, experts did not begin to discuss possible interventions until the main learning issues of the child had been clearly defined. This type of behavior has been observed elsewhere (Glaser & Chi, 1988), where it was reported that experts tend to work carefully through the process of identifying problem types and patterns before attempting solutions. Next, after identifying the main learning problems of the child, all experts spontaneously generated numerous strategies for addressing the child's chief learning problems. Experts also provided a rationale for their interventions and offered alternative solutions after teachers expressed disapproval for a particular approach. These findings suggest that experts have stored solutions to the learning difficulties of children. This knowledge of solutions to problem types in a particular domain is a principal characteristic of expert thought (Glaser & Chi, 1988). The knowledge enabled experts to work through the process of

developing and modifying interventions more efficiently than novices because they had many interventions already stored in memory (Glaser & Chi, 1988).

By contrast, novices emphasized special services over classroom interventions. That is, two novices recommended classroom interventions in addition to special services, and the remaining three novices recommended special services only. Furthermore, of the two novices who recommended classroom interventions, only one novice discussed these recommendations with the teacher. The other novice referred the teacher to her psychological report, remarking that all recommendations were listed in the report. This finding suggests that novices do not view classroom interventions as a primary means by which to help the child. Second, novices presented their recommendations to teachers, and they did not inquire as to whether teachers would be willing to implement recommended interventions as prescribed. Novices also did not generate new or modify existing interventions during the meeting. One explanation for this behavior may be that novices had already developed their recommendations with their clinical supervisors prior to the meeting; hence, they may have felt that their interventions were well conceived and did not require extensive discussion about their relative merit. Alternatively, it may be that novices do not have stored solutions to the learning problems of children. Thus, they may have been unwilling to engage in a lengthy discussion that would have required skills they had not yet developed.

Conclusion

In conclusion, this study suggests that school psychologists assume two critical functions during the post-assessment meeting with teachers. The first function is that of educator. In this capacity, psychologists are responsible for

explaining which results are significant, how the significant results can be integrated into a meaningful and accurate profile of the child's academic capabilities, and which interventions are best suited to address the chief learning problems of a child. Psychologists also function as problem solvers. In this role, psychologists work in collaboration with teachers to define the child's main learning difficulties. Psychologists also ensure that they have worked through the problem-solving process completely before beginning to develop recommendations for the child.

These two functions or processes do not operate in isolation. Rather, it appears that the processes have a facilitative effect on each other. That is, the more psychologists educate teachers about the significant findings and the implications of those results, the more teachers are able to participate in and contribute to the problem-solving process. And the more teachers participate to the problem-solving process, the more they understand the main learning issues of the child.

Indeed, these data demonstrate that there is a continuum of development from a beginning school psychologist to a competent and reflective school psychologist, who is "able to engage in kinds of inquiry that bring available professional knowledge to bear on practice situations where its application is problematic" (Schon, 1987, 34). That is, it is not just experience (i.e., years on the job) that results in expertise, but reflection on one's practice and professional knowledge that can bring about expert thinking and behavior.

Theoretical Framework, Strengths and Limitations of the Methodology, and Directions for Future Research

Theoretical Framework and Strengths of the Methodology

Three key elements constituted the theoretical framework of this study. First, school-based assessment is a specific domain of content within consultation that has not been examined by school consultation researchers to date. This study departed from previous research tradition in that it delimited the context of consultation activities (i.e., assessment of underachieving children) and attended specifically to the content of consultation conversations (i.e., verbal content and cognitive patterns). Previous school consultation research has focused mostly on the process variables that underlie consultation without regard for content or context. In addition, the study was unique in that it utilized actual consultation and assessment cases as the basis for its analyses. That is, the data collected was situated within the authentic context of practice. Thus, it most likely reflects the degree to which experienced and beginning school psychologists can truly access knowledge that is relevant to the practice of consultation and assessment.

Second, the expert-novice paradigm provided the basic framework of analysis for this study. Utilization of the paradigm yielded several key qualitative and quantitative findings. Most notably, the paradigm was beneficial in defining the nature of thinking and problem solving that is specific to expert and beginning school psychology practitioners. It was also useful in demonstrating what mental processes and structures have developed in experts. It is a highly recommended model for collecting both qualitative and quantitative data.

Finally, this study utilized both quantitative and qualitative procedures to analyze its data. Quantitative procedures were employed to analyze data from the CAR-Revised (Rolih, 2001), which classified data into four distinct categories. The CAR-Revised provided objective, numeric data that was helpful in corroborating several of the qualitative results. For instance, the qualitative analyses indicated that novices did not encourage and maintain teacher input during the session. Likewise, data from the CAR-Revised indicated that teachers with novices were less active than teachers with experts during the first two-thirds of the consultation meeting.

The qualitative procedures were extremely valuable in discerning broader patterns across data sets and within groups of participants (e.g., novices and experts). Specifically, the constant-comparative method was utilized to develop the *Patterns of Expert Communication Behavior in the Context of Consultation and Assessment* and a *Cognitive Model of Consultative and Assessment Explanations of Experts.* In addition, case study procedures were employed to compare the transcripts of experts and novices. These procedures identified four major differences in the cognitive activities of expert and novice school psychologists. Qualitative procedures were valuable in the study of internal mental processes of specific groups of individuals.

Limitations of the Study

This study had several limitations. The first and most obvious limitation is the small sample size. The quantitative analyses utilized all 24 participants (i.e., 12 psychologists and 12 teachers) as well as the 6 expert and 6 novice psychologists. These analyses might have obtained significantly different findings if the sample sizes were larger for both the teacher/psychologist and expert/novice comparisons. In addition, the qualitative analyses, though rich and informative, are based on only 5 novices and 4 experts who met criteria on

their respective protocols. These analyses might have produced more elaborate and definitive results if there were more data to inspect.

Second, the inter-rater reliability of the CAR-Revised (Rolih, 2001) is moderate to good. The least favorable coefficients were obtained for the Content Category, which was the one category modified for this study. The reliability of this measure will need to be improved before it is used in future research.

Third, data for the study were collected at several suburban elementary schools in New York. Consequently, the findings may not generalize to urban settings or to psychologists working with junior high and senior high school populations.

Fourth, teachers were selected to participate in the study because they indicated an interest in working with the psychologist in defining the child's learning difficulties and in developing educational interventions for the child. Clearly, the data from this study does not represent the communication between a teacher and a psychologist on all assessment cases. Many evaluations of children are conducted for strictly "administrative" purposes. That is, a special education committee may require the evaluation to determine whether the child meets "criteria" for a special service (e.g., resource room, speech/language therapy). In such cases where there is a clear need for services, the teacher may be less interested in having an extensive discussion with the psychologist about the test data and the educational implications for the child.

Fifth, despite what was believed to be a clear delimitation of the context for this study, the empirical task for participants was not entirely standardized by this researcher. That is, all participants assessed children referred by their teacher for academic underachievement, but not all children were

suspected of having learning difficulties. Two children had emotional issues that were interfering with their learning. Thus, the nature of the consultative discussions was quite different in those cases than in situations with children with suspected learning problems. This limitation underscores the need for researchers to clearly define the task for participants, particularly in research where content and context provide the basis for analyses.

Directions for Future Research

The logical extension of this research is to examine the communication patterns and mental processes of experienced and novice psychologists when they consult with the parents of a child referred for suspected learning difficulties. Future research might also examine the cognitive processes of experts and novices in consultation with a child with a suspected learning difficulty, though in this case the child would most likely be a junior high or senior high school student. Indeed, there are many potential contexts for school consultation activities. Researchers can choose an area of interest and ensure that they have clearly defined the parameters of the context for the study.

Theoretical and Educational Implications

Theoretical Implications

There are several theoretical implications of this research. First, it appears that psychologists' expertise in school consultation and assessment can be captured and understood as psychologists engage in this specific activity with teachers. This study of expert/novice school psychologists stands in contrast to previous research in counseling psychology, where it was found that it was difficult to detect differences in the reasoning patterns of expert and novice psychologists when utilizing hypothetical cases (Hillerbrand &

Clairborn, 1990). Further, the analyses and findings also stand in contrast to research that focuses only on process in interactions between school psychologists and teachers or students. This study suggests that by focusing on a particular problem area, here teacher requests for academic assessment, the thinking patterns and cognitive structures of novice and expert school psychologists can be more closely examined and described. In addition, the study suggests that, as in other areas of expert/novice research, studies of school psychologists' interactions and dialogue with teachers is an important focus in the study of expertise. Just as in the more general areas of teaching, research on school psychologists' cognition and expertise is most likely to be fruitful when linked to specific areas or contexts, such as assessment and academic underachievement, behavior problems, or mental health issues.

Second, the data from this study indicate that the school psychologist is one of two users of psychological test data. Psychologists use the data to diagnose learning problems and to articulate the need for and potential benefits of treatment. However, teachers in this study also used the test data. That is, as teachers were validating the psychologist's clinical impressions of the child, teachers, in consultation with the psychologist, were using the test data to develop more appropriate instruction for the child. In this sense, they were using the test data to better understand the educational needs of the child and to formulate strategies that might help to improve the child's classroom achievement.

Finally, there has been and continues to be great debate concerning the utility of intelligence testing. More recently, scholars and practitioners have been asking whether or not psychologists should even be using intelligence tests (Benson, 2003). Most professionals in the field have answered affirmatively, but with one caveat: Psychologists must remove the focus from a

single IQ score and strive to evaluate the whole child, with the ultimate goal of developing educational interventions that reflect the individual needs of the child. Alan Kaufman elaborated upon that notion when he said, "The movement that's trying to get rid of IQ tests is failing to understand that these tests are valid in the hands of a competent practitioner who can go beyond the numbers - or at least use the numbers to understand what makes the person tick, to integrate those test scores with the kind of child you're looking at, and to blend those behaviors with the scores to make useful recommendations" (Benson, 2003, p. 51).

The present study shows that, with experience and reflective practice, psychologists learn to blend together their own test data and observations. However, they also learn to weave a broader and more accurate picture of the child by integrating not only their own data, but also the observations of others who know the child well. That is, experienced, reflective psychologists in this study went beyond the numbers and used IQ tests along with third-party sources to achieve a more ecologically valid or comprehensive assessment of the child. This research, thus, has implications for thinking about test validity more broadly. The challenge is to attain test validity in interpretation and use, as Kaufman suggests. The theoretical implication here is that more broadly based studies of test use are required as validity-related evidence of test use in practice settings. The present study provides one example of what such studies might encompass.

Educational Implications

The development of expertise seems to happen over time and with experience and reflection (Schon, 1987). Nevertheless, there are findings from this research that can be used to further the professional development of beginning school psychologists. First, novices did describe the specific skills

measured and the implications of a single subtest and factor score. But they did not integrate their test data into a meaningful profile of the child. That is, they did not prioritize their data into primary, secondary and tertiary findings, so that they may more easily identify the main themes in their test data. Therefore, it is suggested that trainers and clinical supervisors assist beginning psychologists in identifying the key themes in their test data and provide them with feedback in this regard.

Second, beginning psychologists did not corroborate their findings with teachers. That is, they did not check the "validity" of their inferences with another source (i.e., the teacher). Thus, it is suggested that trainers and supervisors of school psychologists emphasize the importance of validating or confirming test data with teachers and other sources. Beginning psychologists also need opportunities to practice and receive supervision in this area.

Finally, novices did not link their test results to classroom interventions, suggesting that they did not think of classroom interventions as a primary goal for the child. Beginning school psychologists could be helped by supervised practice in linking their test results to the development of useful classroom recommendations. They might also be helped by observing the important benefits that appropriate, individualized classroom interventions can offer children.

List of Appendixes

Appendix A

Principal's Letterhead

XX ,2002

Dear Ms. Rolih:

I have had the opportunity to read your research proposal as well as review the consent forms that will be used. Your methodology and procedures meet the standards of the _____ school (or district).

Your request to conduct your research at the ____ school is approved. Please coordinate with the building psychologist, who will aid you in contacting parents.

Sincerely,

Principal XX

Ph.D. Program in Educational Psychology

Consultation and Assessment

The Graduate School and University Center
The City University of New York
365 Fifth Avenue
New York, NY 10016-4309
TEL 212.817.8285 FAX 212.817.1516

Appendix B1

Psychologist Consent Form
Research Study --
Communicational Processes in School-Based Consultation

Dear Colleague:

My name is Jeanne N. Rolih and I am a Ph.D. student in Educational Psychology at the City University of New York, Graduate School. I would like to invite you to participate in the research study for my dissertation entitled "School-Based Consultation and Assessment: Communicational Patterns and Educational Implications."

The purpose of this study is to examine the communicational processes of a teacher and a psychologist when discussing the psycho-educational assessment results of a child. Psychologists who volunteer for the study will participate in approximately two sessions. The sessions will be audio-taped, and each participant will be given the opportunity to review the tape if he or she desires. Each psychologist will be given a token compensation of $50.00 for each audio-taped session, since they will be responsible for recording the session.

Your participation in this study is voluntary, and you are free to withdraw from participation at any time during the study. Participation is **NOT** related to your professional standing in any way. Non-participation in the study will also **NOT** affect your professional standing. All information will be kept strictly confidential by assigning a participant code (i.e., "C") which will substitute for your name on all materials. No psychologist names will be used in any report of the research. The audio tapes will be used for research purposes only. They will be secured in an office at the university for safe keeping.

There is no known risk associated with participation in this study. There is no known benefit associated with participation in the study, but the results will be used to further the understanding of the role of the school psychologists in assessment and consultation.

At the conclusion of the study, I would be pleased to send you a copy of the major findings. Summary data only will be reported. **No individual information will be reported in this document.**

If you have any questions related to this study, please free to contact me at (631) 367-9117, Jeanned35@aol.com or my faculty advisor, Prof. Carol Tittle at (212) 817- 8288, CTittle@gc.cuny.edu. If you have any questions concerning your rights as a participant in this study, you may contact Hilry Fisher, Sponsored Research, CUNY, Graduate School and University Center at (212) 817-7525, HFisher@gc.cuny.edu.

Thank you for your participation in this study. I will give you a copy of this form to take with you.

If you agree to be interviewed, please sign below.

I agree to have this interview taped, please circle one:

Yes No

Graduate School & University Center / CUNY
IRB
Approved
6-11-10-01
Approved: 11/16/01 Expired: To 4/15/02

Participant's signature Date

Investigator's signature Date

Ph.D. Program in Educational Psychology

Consultation and Assessment

Appendix B2

The Graduate School and University Center
The City University of New York
365 Fifth Avenue
New York, NY 10016-4309
TEL 212.817.8285 FAX 212.817.1516

Teacher Consent Form
Research Study --
Communicational Processes in School-Based Consultation

Dear Colleague:

My name is Jeanne N. Rolih and I am a Ph.D. student in Educational Psychology at the City University of New York, Graduate School. I would like to invite you to participate in the research study for my dissertation entitled "School-Based Consultation and Assessment: Communicational Patterns and Educational Implications."

The purpose of this study is to examine the communicational processes of a teacher and a psychologist when discussing the psycho-educational assessment results of a child. Teachers who volunteer for the study will participate in one session. The session will be audio-taped, and each participant will be given the opportunity to review the tape if he or she desires.

Your participation in this study is voluntary, and you are free to withdraw from participation at any time during the study. Participation is **NOT** related to your professional standing in any way. Non-participation in the study will also **NOT** affect your professional standing. All information will be kept strictly confidential by assigning a participant code (i.e., "T") which will substitute for your name on all materials. No teacher names will be used in any report of the research. The audio tapes will be used for research purposes only. They will be secured in an office at the university for safe keeping.

There is no known risk associated with participation in this study. There is no known benefit associated with participation in the study, but the results will be used to further the understanding of the role of the school psychologists in assessment and consultation.

At the conclusion of the final study, I will be pleased to send you a summary of the major findings. Summary data only will be reported. **No individual information will be reported in this document.**

If you have any questions related to this study, please free to contact me at (631) 367-9117, Jeanned35@aol.com or my faculty advisor, Prof. Carol Tittle at (212) 817- 8288, CTittle@gc.cuny.edu. If you have any questions concerning your rights as a participant in this study, you may contact Hilry Fisher, Sponsored Research, CUNY, Graduate School and University Center at (212) 817-7525, HFisher@gc.cuny.edu.

Thank you for your participation in this study. I will give you a copy of this form to take with you.

If you agree to be interviewed, please sign below.

I agree to have this interview taped, please circle one:

Yes No

Graduate School & University Center / CUNY
IRB
Approved
6-11-10-01
Approved: 11/16/01 Expired: To 11/15/02

Participant's signature Date Investigator's signature Date

Ph.D. Program in Educational Psychology

Consultation and Assessment

Appendix B3

The Graduate School and University Center
The City University of New York
365 Fifth Avenue
New York, NY 10016-4309
TEL 212.817.8285 FAX 212.817.1516

Parent/Guardian Consent Form
Research Study -- Communicational Processes in School-Based Consultation

Dear Parent/Guardian:

My name is Jeanne N. Rolih and I am a Ph.D. student in Educational Psychology at the City University of New York, Graduate School. I would like your help in carrying out the research study for my dissertation entitled "School-Based Consultation and Assessment: Communicational Patterns and Educational Implications.

Children are sometimes referred to a school psychologist for an educational assessment. After the psychologist's assessment of a child is completed, the psychologist meets with the child's teacher to discuss the assessment results and classroom implications. The purpose of my study is to examine the communicational processes of a teacher and a psychologist when discussing the assessment results of a child. The session involving the teacher and psychologist will be audio taped. Parental permission is required in order for me to audio tape the session. The child whose assessment results are being discussed will not be present.

Permission to use your son or daughter's assessment results in this study is voluntary, and you are free to withdraw from the study at any time. If you give permission to use your son or daughter's assessment results in the study, his or her academic standing will NOT be affected in any way. If you do not give permission, your son or daughter's academic standing will also NOT be affected. All information will be kept strictly confidential, and each child will be provided with a pseudonym during the transcribing of the audio tapes. No student names will be used in any report of the research. The audio tapes will be used for research purposes only. They will be secured in an office at the university for safe keeping.

There is no known risk with participation in this study. There is no known benefit associated with participation in the study, but the results will be used to further the understanding of the role of the school psychologists in assessment and consultation.

Appendix B3
(continued)

When I complete my dissertation, a brief report of the major findings will be given to the school administration and faculty. Summary data only will be reported. No individual information will be reported in this document.

If you have any questions related to this study, please free to contact me at (631) 367-9117, Jeanned35@aol.com or my faculty advisor, Prof. Carol Tittle at (212) 817- 8288, CTittle@gc.cuny.edu. If you have any questions concerning your rights as a participant in this study, you may contact Hilry Fisher, Sponsored Research, CUNY, Graduate School and University Center at (212) 817-7525, HFisher@gc.cuny.edu.

If you agree to have your child's assessment results discussed and audiotaped in a session, please do the following:

(1) Initial the bottom of the first page of this form;
(2) Sign this page on the lines provided below;
(3) Circle the appropriate response;
(3) Keep the second copy of this form for your records;
(4) Return one copy of this form to me.

Thank you for your consideration.

I agree to have the discussion about my child's assessment results audiotaped:

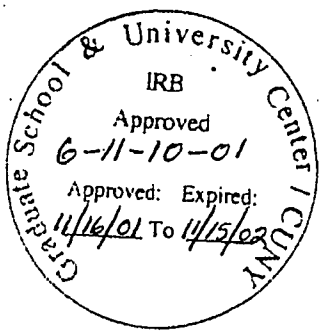
Yes No

_____ _____

Parent's Signature Date Investigator's Signature Date

_____

Child's Name



Appendix C

Provisional Criteria for Expert Communication Behavior

1. Provide the teacher with a structure of the meeting. For example, the psychologist might say, "We are going to talk about John and the test results, but first let's review what your concerns were and why you thought we could do a screening of him."

2. Review the referral question (i.e., re-state the problem(s) or reason(s) for seeking an psychoeducational evaluation of the child). For example, "Okay, so you think that John has difficulties with attention."

3a. Review findings from the evaluation, test by test (and subtest by subtest), and give complete explanations for the results (see Appendix C). For example, the psychologist might say, "Okay, well I'm going to review a test I did with him, it's called an Early Screening Profile, and it looks at different areas." "It looks at a cognitive language area and it also looks at articulation..."

3b. Address the consistencies and inconsistencies in the data. For example, "So he is clearly within the average range again... all his scores were there." "Okay, does this make sense to you?"

4. Discuss possible classroom interventions. Check what has been done before and make recommendations for classroom intervention(s). Make sure that the interventions are acceptable to the teacher. Suggest another intervention if the previous one is not acceptable to the teacher. For example, "...and he doesn't hear you... so what can you do, make sure he's looking at you, like hold his face when you speak to him."

5. Summarize referral questions and major findings. Also offer a concluding comment. For example, "Well at least it sets your mind at ease about some other concerns that you had about him, whether he was ready for kindergarten or not." Alternatively, make suggestions for how to proceed if further evaluations or changes in placement are indicated. For example, "Well, I will call his parents and arrange for a parent/teacher conference." "Perhaps we can talk to them then about the possibility of a neurological exam."

Appendix D

Provisional Criteria for Complete Explanations by Experts

1. Describe what the test/subtest does. "So in terms of verbal concepts, he was asked to either show me something from a picture, and I'll show you some pictures that I gave him." "He was also asked to show me something, which means he can point to it and identify it, or he's asked to say it, so he has to say the words."

2. Give the test results. For example, "His Visual Discrimination skills are also in the average range and age appropriate, which is very good."

3. Offer an interpretation of the test/subtest. "Maybe if he had some problems with visuals, he would see all this and be confused by the numbers." "But if he can discriminate, he would get that one correct... and he did get it correct."

4. Provide an example which links the test data to the child's classroom behavior and academic difficulties.

5. Check for teacher understanding, using questions or statements that require the teacher to indicate understanding of the ideas discussed. For instance, the psychologist might say, "Yes, he's kind of distracted?" And the teacher might reply, "Yes, and you were testing him one-on-one."

Appendix E
Consultation Analysis Record (CAR) - Revised

Source Codes:
Consultant -- consultant is talking.
Consultee -- consultee is talking.

Control Codes:
Elicitor -- "an utterance that calls for a response in a particular content subcategory and a particular process subcategory" (p. 60).
Emitter -- "a verbalization that provides content and process information to a listener but does not call for a specific response on the part of the listener" (p. 62).

Content Codes:
Background Environment -- verbalizations concerning 'remote' environmental conditions related to behavior" (p. 47).
Behavior Setting -- "verbalizations referring to antecedent, consequent, and sequential conditions occurring contiguously with a client's behavior" (p. 48).
Behavior -- statements addressing "what the client does" (p. 50).
Individual Characteristics -- "verbalizations about individual attributes of the client" (e.g., gender, age, intellectual characteristics) (p. 51).
Observation -- verbalizations referring to "observations and recording activities such as those involved in gathering data on client behavior" (p. 52).
Plan -- statements describing "one or more plans to solve the problem or problems presented by the consultee" (p. 52).
Other -- "a catch-all category to cover subjects not explicitly delineated in the other content subcategories" (p. 53).
*Process Overt -- verbalizations that explicitly addressed the problem-solving process itself (e.g., "Let's start the meeting by reviewing the assessment data."
**Test Description --statements that explain what a test or subtest measures (e.g., "The Similarities Subtest measures the capacity for abstract thinking with words").
** Test Results --statements that describe how the child scored on a test (e.g., "On the verbal scale, John achieved a score of 105, which corresponds to the average range.").

Process Codes:
Specification -- verbalizations that "provide or elicit descriptive or definitional information regarding the various content subcategories under discussion" (p. 54).
Positive Evaluation -- statements indicating positive "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).
Negative Evaluation -- statements indicating negative "attitudes or emotional reactions of a speaker toward the things that he or she is discussing" (p. 54).
Inference -- verbalizations that "provide or call for judgments as opposed to statements of fact" (p. 56).
Summarization -- statements that "review information discussed earlier in the interview or at some time before the interview" (p. 57).

(appendix continues)

Appendix E
(continued)

Process Codes (continued):

Positive Validation -- verbalizations that "call for agreement ... with regard to matters of fact" (p. 58).
Negative Validation -- verbalizations that "call for ... disagreement ... with regard to matters of fact" (p. 58).

Note. From *Behavioral Consultation and Therapy*, (pp. 44-63), by J. R. Bergan & T. R. Kratochwill, 1990, New York: Plenum. Copyright 1990 by Plenum Press. Adapted with permission.
** Additions to CAR (Bergan & Kratochwill, 1990) for the purposes of the present study.

Appendix F

TEACHER QUESTIONNAIRE

(1) How many years have you been teaching?

_____

(2) How many years have you been teaching at the elementary school level?

_____

(3) How many years have you been teaching the grade you are currently teaching?

_____

(4) How many years have you been working with this psychologist?

_____

(5) What do you hope to learn from your meeting with the psychologist?

_____

_____

_____

_____

_____

_____

_____

_____

Appendix G

Patterns of Expert Communication Behavior in the Context of Consultation and Assessment

1. Provide the teacher with an outline of what will occur during the meeting. Also, explain what teacher's role will be during the meeting (e.g., to ask questions when explanations are unclear).

2. Review the referral question (i.e., re-state the problem(s) or reason(s) for seeking a psychoeducational evaluation of the child).

3a. Review findings from the evaluation, test by test (with attn. to noteworthy subtests) and give complete explanations of results (see Appendix G). Note convergence of findings.

3b. Occurs simultaneously with 3a. Bring teacher into the discussion and check for teacher understanding of test results/implications. Note convergence of findings and address inconsistencies with respect to child's classroom achievement/behavior and test results/test behavior.

4. Summarize 2-3 major findings. Then, discuss possible classroom interventions. Explore what has been done before (successful/less so) and make recommendations for classroom intervention(s). Make sure that the interventions are acceptable to the teacher. Suggest an alternative intervention if the previous one is not acceptable to the teacher.

5. Offer a concluding comment (if warranted). Alternatively, make suggestions for how to proceed if further evaluations or changes in placement are indicated.

Appendix H
Cognitive Model of Consultative and Assessment Explanations of Experts

1. Provide an overview of the test.

2. Comment on noteworthy subtests.
   2a. (SUBTEST TAPS) What did skills did the subtest tap (give a phrase or two)?

   2b. (SUBTEST DEMANDS) What does the task require the child to do (give general or real subtest examples).

   2c. (TEST RESULTS) How did the child score on the task (test results)?

   - **Inconsistent/Consistent** Findings with other subtests/factor scores (Pattern of scores)

   2d. (CHILD BEHAVIOR) Provide many examples of task and child behavior. How did the child behave on the task (impulsive; attentional issues; thoughtful/checked his work)?

   - Where successful/less successful
   - Psychologist response to child on less successful items

3a. (LINKS TO CLASSROOM -- CURRICULUM) Link test data to child's difficulties with (similar) academic material. Bring the teacher into the discussion. **Note consistencies and address inconsistencies between Test Results and teacher impressions of child's achievement.**

- Classroom Curriculum (Tasks tapping similar tasks)
- Where is child successful/less successful.
- Teacher modifications of instruction. (Successful/less success)

3b. (LINKS TO CLASSROOM -- CHILD'S BEHAVIOR) Child's behavior in class on similar tasks. Where is the child successful/less successful? **Note consistencies and address inconsistencies between child's behavior during testing and child's behavior in the classroom.**

- Teacher behavioral interventions? Where successful and less so (i.e., are these interventions effective?)

4. Implications for child/test interpretations.

5. Interventions: classroom and special services if appropriate (or this conversation occurs at the end of the meeting).

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