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**COMPARISON OF ESTIMATED AND ACTUAL DATA
CONCERNING TIME ALLOCATION AND
CASELOADS OF PUBLIC SCHOOL SPEECH/LANGUAGE CLINICIANS**

By

Emilie M. Brown

B.A., University of Montana, 1978

Presented in the partial fulfillment of the requirements

for the degree of

Master of Arts

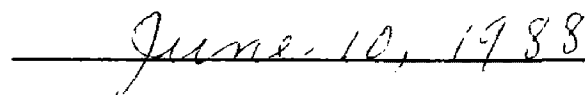
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**Comparison of Estimated and Actual Data
Concerning Time Allocation and
Caseloads of Public School Speech/Language Clinicians**

Director: Dr. Barbara Bain

The purposes of the present study were: 1) to develop methods to identify and describe the present responsibilities and activities of the school speech and language clinician, 2) to survey the clinicians and administrators involved and 3) to report these findings. 235 administrative personnel and 181 school speech/language clinicians were sampled for information concerning clinician responsibilities and activities, using a questionnaire. A supplemental telephone sampling, to increase the number of administrative responses was necessary. A time analysis log was recorded by 30 clinicians, 10 each from low, medium and high population districts. This provided actual time expenditure information to compare to the clinician's and administrator's estimates from the questionnaire. The results of the study demonstrated a need for collecting and sharing of information between speech/language clinicians and OPI personnel, school administrators and legislators. A classification system and time analysis procedure were found to be effective. Data should continue to be collected, using these two tools, and should be distributed to speech/language clinicians and to those persons making decisions affecting speech/language services in the public schools. Better description of clinicians' responsibilities and caseloads should result for the different size population districts in Montana. State-wide centralized documentation by district of special education records, including speech/language, should occur and be monitored by the state during the special education auditing procedure. Future research topics should include evaluating the present study for reliability and validity.

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Chapter 1

INTRODUCTION

The professional demands on the speech/language clinician in the public school systems have changed greatly in the last several years. Included among these changes are the types and severity of communication problems seen in the public school caseloads, the different roles that the clinician must perform, and the various settings, equipment and accompanying knowledge that the clinician must be able to utilize. The changes have occurred for legal as well as philosophical and scientific reasons. Legal decisions have impacted and changed the student make-up of the public schools, and therefore the composition of special education caseloads. Changes also have occurred within the speech and language profession with regard to research and training interest and expansion into various content areas. With these changes from both inside and outside of our profession, the allocation of work time and the demands on the clinician have been altered. Devising a method of identifying and describing the present responsibilities and activities of the school speech and language clinician and a format to effectively report these findings are therefore critical in making the on-going informed decisions required by clinicians, local administrators, and state and local special education administrators. The purposes of this study are to 1) develop a method to meet these needs, 2) survey the clinicians and others involved, and 3) report these findings.

This chapter will discuss the development of the special education provision system, on both state and national levels. Speech and language therapy in the schools is administrated by the special education system within the government. Then, a description of the current provision and record-keeping system will follow, and finally, the current provision system will be analyzed for its efficiency and usefulness to persons involved.

1.1. HISTORY OF SPECIAL EDUCATION PROVISION SYSTEM IN MONTANA

The legislative history of the funding of special education in Montana began in 1945, with the 29th Legislative Assembly. A resolution recommended that the governor appoint a committee to investigate the crisis in public school funding. The 31st Legislative Assembly in 1949 passed the Foundation Program Act, the program that funds public education in Montana.

Direct financing of special education programs in the public schools of Montana began in 1953 when the 33rd Legislative Assembly directed cerebral palsied children in special classes be included in the school funding. Educable Mentally Handicapped and Custodial (Trainable) Mentally Handicapped in the public schools were included in funding in 1955 and were given more funding per student than the regular education student. In 1961, the 37th Legislative Assembly made special classes mandatory in the public schools when ten or more handicapped students resided in a school district and permitted tuition payment for out-of-district placement if ten students or a classroom were not present in a specific

district.

The 39th Legislature in 1965 mandated district surveys every four years to determine numbers and needs of handicapped children in each district. This Assembly also began a weighting system for speech handicapped children that were not in special classes. A weighting system for funding indicating the extra costs incurred in educating handicapped students was acknowledged and more money per student was provided for their education. Handicapped students were therefore funded as regular students in the public schools, plus a 'weighted' extra amount - to help recover the extra expenditures required for their education. This weighting system was determined by the state legislature and could be changed by the state legislature.

In 1967, the 40th Legislative Assembly more clearly delineated its policy on providing services to the children with handicaps and also allowed preschoolers and trainable mentally retarded to be served. The policy allowed the individual school district to make their own decisions whether or not to serve these groups. The 42nd assembly in 1971, provided definitions of handicapped students and increased the age range of service from preschool to twenty-five years of age, adding the older students with the approval of the State Superintendent of Schools.

When the Montana Constitution was rewritten in 1972, equal educational opportunity for all school-aged children, regardless of handicap, was guaranteed. These Montana Constitutional changes preceded federal Public Law 94-142 in 1975, a portion of Part B of the Education for All Handicapped Children Act. PL 94-142

was a federal regulation which defined and addressed the educational inadequacies of mentally retarded children. These inadequacies and inequities resulted in legal disputes. *Pennsylvania Association for Retarded Children vs. Pennsylvania* (1971) and *Mills vs. the District of Columbia* (1971) as well as thirty-four similar cases in twenty-one other states dealt with the constitutional rights for the education of the handicapped. In the *Pennsylvania Association for Retarded Children vs. the Commonwealth of Pennsylvania* (1971) suit, the court concluded that the state could not deny public education to mentally retarded children. *Mills vs. Board of Education of the District of Columbia* (1971) was the second major court action which determined that all school-aged children, regardless of handicap or severity of that handicap, were entitled to receive a free appropriate public education. These cases determined educational standards and required specific procedures for the protection of these new equal rights. PL 94-142 stated that all handicapped children were entitled to a free appropriate public education: special education and related services provided in the least restrictive (as similar to that of the regular student as possible) environment, at no cost to the parent, to those children determined to require the services. Following the implementation of federal law, Montana had to revise its then-current laws to be in agreement with PL 94-142. In 1977, the definitions of handicapping conditions were changed by the 45th Legislative Assembly. The regulation from the 1972 Montana Constitution, concerning due process and mandatory and required services was also changed, since Montana's did not agree completely with the federal standards. Since 1977, there have been eight revisions made by three Superintendents of Public

Instruction involving changes in day to day operation and streamlining of the Special Education Reference Manual of Montana Laws and Rules. The revisions were in 1972, and twice in 1974 by Delores Colburg, in 1977 and 1980 by Georgia Rice, and in 1982, 1984, and 1986 by Ed Argenbright. In 1986, Appendix G was added to the Reference Manual, describing best practices to further delineate the processes described in the manual for screening, evaluation and placement of students in special education.

1.2. DESCRIPTION OF CURRENT DATA COLLECTION SYSTEM

Federal and state law mandate that identifying information on all children served by special education programs including speech and language therapy, must be reported to those governments annually. The state has the responsibility of ensuring that PL 94-142 is being implemented in order to be eligible for federal funding for its programs(Dublinske, 1978). The state child-count form provides information on students seen for special education, including those seen for speech and language therapy.

The Montana child-count form for special education, as with most other states, is modelled directly on federal regulations and is presently used by the state and federal governments primarily for funding purposes. Consequently, the form must include: numbers of students, and handicap for 'weighting'. Federal funds are distributed to the state based on a varying percentage of the average cost per pupil times the number of handicapped children receiving special education services in the state's schools. The local school districts of Montana

apply to the state for money by describing the types and extents of services they provide. The state disburses funds based on two factors; service descriptions, and the number of students served during the previous year and reported on the child-count form(Dublinske, 1978).

The child-count form consists of identifying information for each child: a) name - in initials, birthdate and sex, b) child's primary problem - from the state's eleven accepted handicapping conditions, and c) amount of time seen for therapy per week (reported only in whole numbers representing hours seen per week for direct therapy). The child-count form is completed in December for all children being served on December 1 of each year and is redistributed in June of the same school year for any changes which occurred in caseload, and to add the total number of weeks each student was served during that school year.

The record-keeping system used for speech and language therapy should be useful for both the speech and language clinicians who are gathering the data, and the administration, local, state and federal, who are receiving and then making decisions based on that data. To be useful to both parties, the information to be recorded should involve as many key descriptors as possible, but also be efficient to implement and analyze. The present child-count form is useful to local, and particularly to state and federal program administrators receiving the data only in terms of counting documented caseload numbers under a broad general label to justify funding. The child-count form is useful to those recording the data, only to the extent of having information on the number of students they are serving.

The child-count forms that are used for monitoring the numbers and types

of handicapped children in the state of Montana have not changed greatly from the original design(1978). Changes from the original forms include no longer reporting the severity of handicapping conditions as time seen per week in special education (1982), and slight format changes to allow for computerization of the information reported.

The child-count form, at present, describes speech and language therapy as 'speech'. Therefore, it does not begin to recognize the depth and breadth of students' handicaps seen for treatment by clinicians, such as language delay, language impairment associated with learning disabilities or physical handicaps, fluency, voice, etc. The form does not begin to describe the clinician's role of interaction with these students, reflecting only time in direct therapy. Primary treatment agent, consultant with teacher or special education personnel or program designer for aide or parent to be the primary agent of change in intervention are all roles that the school speech and language clinician may undertake to achieve maximum gains with different students. The child-count form in its present format is inadequate for collecting data to allow administrators or the clinicians themselves to make informed decisions regarding adequate performance of the clinician, considering geographic and population parameters. A state such as Montana is diverse in population density, ranging from rural remote school districts to urban school districts. The data the state collects is collapsed across these diverse districts. The amount of travel required to serve rural school districts is not acknowledged by the present paperwork and appears as simply lower caseload numbers.

1.3. HISTORY OF SPEECH/LANGUAGE PROVISION IN PUBLIC SCHOOLS NATIONWIDE

The role of the speech and language clinicians in the school setting has also changed professionally in the last twenty years. This is roughly the same time span described in the development of changes in the present special education provision and record-keeping system. Caseloads have changed, with the special education system modifications' regulation to provide 'free and appropriate' services in the 'least restrictive environment' to all children, as required by PL 94-142. In the past, public school speech and language clinicians primarily served school-aged individuals who were able to function independently in regular education classrooms and caseloads consisted primarily of children with articulation disorders. (80% articulation, 20% voice, rhythm and problems associated with organic conditions, Van Hattum, 1971.) The types and severity of handicaps present in the school that require services have changed greatly, with wider age range, now including preschoolers to post-graduation ages, wider range of handicaps and wider range of severity of handicapping condition of children being seen, (O'Toole & Zaslow, 1969) as mandated by PL 94-142. For example, deaf children or children with severe mental retardation or other physical/educational impairments previously placed in state institutions or private care facilities, are now attending public schools. These children now require services from the appropriate special education personnel in the public schools. They may require specialized settings. Historically, much of the speech/language therapy occurred in therapy rooms - outside the regular classroom(Garrard, 1979).

Now, children with wheelchairs, hearing aids or more broad-based communication problems may not be remediated most effectively and 'least restrictively' in a separate setting (the speech/language therapy room). These children may now have basic problems with learning and academics. Classroom interaction or consulting/conferencing with other professionals involved in the child's treatment may be much more effective for some children. Specialized equipment and knowledge, such as health-care equipment, augmentative communication equipment, more concrete objects and more extensive and lower level materials are necessary. Different treatment formats may even be necessary because of the younger children being seen, or the older children with more severe health or attention problems being unable to work for a long period of time. This may require shorter, but more frequent intervention sessions.

In addition, knowledge of language in the last twenty years (Rees, 1974) has affected the speech and language clinician as the clinician learns to evaluate and remediate different communication areas more effectively. In a 1931 survey of 1,000,000 school children, only two points of language behaviors were even recognized, dialectical differences and aphasia. 1949 and 1951 studies reported "delayed speech" or "retarded speech development" (early labels for language problems) at 3 - 4%(ASHA Committee on Language, 1975). Beginning in the late 1960's and early 1970's, speech and language clinicians increased their caseload with children considered language impaired. Percentages ranged from 29 - 39% of language impaired children in public school caseloads (Des Roches, 1976) and 36% of clinicians indicated that primarily language impaired students make up more

than 50% of their caseloads (Stark, 1971). Major changes in the composition of disorders of children seen in clinician's caseloads occurred during this time period.

These changes accompanied a major shift in the research and training efforts in communication disorders. In research studies and texts of the 1940's and 1950's, only limited mention was made of language. In the 1960's and 1970's, these topics were greatly expanded (ASHA Committee of Language, 1975). A major signal of this change was ASHA's endorsement, in 1977, changing the title speech pathologist to speech/language pathologist. In fact, the acronym, ASHA might well be ASHLA (American Speech, Hearing and Language Association) or ASLA (American Speech and Language Association) to mirror our increased interest and knowledge in language, if it were not for the problems of public recognition of the acronym (Wepman, 1975).

Comparing recent studies of language problems seen and treated in public school caseloads with the historical perspective of speech/language pathology, a change of major proportion has occurred in the last twenty years. Clinicians no longer see primarily 'speech' problems for therapy. Language involved students receive a much greater percentage of the clinician's time than in the past. There has been no acknowledgement of this significant change in the paperwork (child-count) used to make decisions about speech/language programs, or from the people involved in making those decisions. The label on the child-count form, applied to the handicapped children seen for speech/language therapy remains 'speech impaired'. The numbers gathered from that label constitute the only concrete knowledge that administrators at all levels have concerning these

caseloads and that does not begin to accurately reflect what is currently taking place.

At present, in Montana, some information is gathered within various urban districts, i.e. Great Falls and Helena, or by individual employers, for example, Easter Seals Society, and various special education co-operatives, concerning the composition of the caseloads and professional activities/obligations of the school speech and language clinician. This information needs to be gathered by a common useable tool and shared, this process should not be splintered within the state. The Montana Speech, Hearing and Language Association (MSHA) and the Office of Public Instruction (OPI) both identified the need to seek more accurate information. OPI requested, through a series of meetings, that MSHA find a way to make the information they receive more accurate and informational, but to also try to keep within the existing format. MSHA then funded a study which served as a basis for this thesis. This indicates an acknowledgement that the present system is not adequate, and the interest of different agencies to make the record-keeping system more accurately reflect the provision of services delivered.

In conclusion, governmental and legal changes have altered the role of the public school speech and language clinician, as well as caseload composition. There are many new students with a wider variety and degree of handicaps in the public schools than were previously served, such as hearing impaired or nonvocal children. These students require changes in types of services provided. As a result, the demands on the clinician for different materials, different settings and time, and especially for different knowledge bases have increased. In the same

time span when legal changes occurred, the profession of speech pathology made significant changes. Language required for effective treatment of the various types of handicapped children has become an important aspect of the profession's focus to address communication. As with other professionals, speech and language clinicians must continue to examine their present status and accomplishments, to ensure that the best and most efficient procedures are followed. In order for the speech and language professionals to work as a cohesive unit, this examination should be statewide. The present record-keeping requirements do not begin to address these points and issues, and do not describe appropriately the treatment modes taking place at this time.

In order to reflect these changes in clinical responsibility and caseload, current information should be obtained which describes public school speech and language clinician's roles and responsibilities. This information could be used for a wide variety of purposes. These include: a) examining caseload size per clinician - possible recommended sizes may be determined based on type of children a clinician sees, the setting, the geographical location, etc. b) educational training and in-service needs - they need to reflect, as much as possible, the current demands on the speech and language profession in the public school, c) providing information to the legislature and administrators that is accurate and current, as well as descriptive, for informed decision making.

The purpose of the present study therefore, was to obtain information to answer the following questions:

1. What are speech and language caseload descriptors that should be

included on a state-wide record-keeping system a) from the speech and language clinician's viewpoint? b) from the administrator of the speech and language therapy program's viewpoint?

2. How does the speech and language clinician in the schools allocate and spend her/his work time a) from the speech and language clinician's viewpoint? b) from the administrator of the speech and language therapy program's viewpoint?

Chapter 2

METHOD

In July of 1983, O.P.I. requested a meeting with MSHA and University of Montana representatives of the Communication Sciences and Disorders Department (U. of Mt. CSD) to determine an efficient and effective method of accurately describing speech and language service delivery in the public schools in the state of Montana. O.P.I. called the meeting to locate, or initiate a search for, information they were seeking concerning speech and language therapists in the public schools in the state, to help answer questions that were developing in their department, as well as to supplement information they had recently received from a MSHA Committee on Language. Two categories of information were determined to be important. The first category concerned caseloads: breakdown of types of cases, severity, case dismissal information, type of therapy (group, individual). O.P.I.'s interest in this topic related to questions they had about the numbers of preschoolers being seen, the increases in caseload numbers of Speech Impaired, and 'optimal time needs' of speech impaired students. The second category of information concerned how the clinician spends her/his work time: how much time for evaluation, screening, consulting, conferencing, monitoring, etc. that is not reported under direct therapy, time required for specific types of treatment, i.e. language vs. articulation, clinician's role when treatment is also being provided by another special service person; and when the use of aides was feasible. In

addition, O.P.I. was interested in rural vs. urban effects on clinician work time.

An investigator was chosen who would gather the information and deliver a final report to the agencies involved, in conjunction with a thesis project to complete educational requirements for a graduate degree. A committee made up of personnel from MSHA and the U. of Mt. CSD Department acted as an advisory group for the project.

To examine the issues, two methods were devised; a questionnaire, to be distributed to and returned by the appropriate personnel in the state, and a time analysis. The time analysis was designed to be kept by speech and language clinicians in the schools who were employed in specific sized schools.

2.1. Part 1 – Questionnaire

2.1.1. Development

The questionnaire was developed by the investigator, a state licensed speech/language clinician who has been working in the public school system for four years. Suggestions and recommended changes for elaboration and clarifications of questions were made by the advisory committee. The questionnaire was thus designed to elicit specific information about caseload and allocation of time of the speech and language clinician from the various viewpoints involved in speech and language therapy, both clinical and administrative. A draft of the questionnaire was reviewed by the committee and after revising was completed by the investigator, a final form was reviewed and approved by the committee. Appendix A contains the questionnaire used in the study.

2.1.2. Respondents

The questionnaire was sent to all speech and language clinicians working in the public school setting in Montana, and all school superintendents and special education co-operative directors employed by the public school systems in the state of Montana. Addresses were supplied by O.P.I. and MSHA. Two hundred thirty-five administrative personnel (school superintendents, special education directors, special education co-operative directors) and one hundred eighty-one school speech and language clinicians received a copy of the questionnaire.

The questionnaire was mailed with a return postage guaranteed envelope. Returned questionnaires were assigned a number, by the investigator, when received, to preserve confidentiality of the respondents' answers. This allowed followup by the researcher on any questions that arose in the analysis of the questionnaires.

An increase in the number of administrators responding to the questionnaire was necessary to allow the investigator to place more confidence in interpreting the administrative data. The investigator contacted OPI on 7/28/86 to obtain an accurate count of administrators presently working in the public schools in the state of Montana. Steve Colburg, OPI's statistician, reported that administrators are currently classified by OPI as superintendents (numbering 142.3) and other administrators (176) which includes principals, vice principals, co-operative directors, etc. There were, at that time, 23 co-operatives in the state. These numbers represent a change from the total number of administrators available in the original sampling, but by using 165 (142 superintendents and 23 co-operative

directors) administrators, the supplemental study received data from those administrators who have final responsibility for speech/language (special education) programs. The original results from the administrators were not evenly distributed across the low, medium and high population size groups, as the clinician responses were. The supplemental sampling corrected for this discrepancy, by sampling administrators evenly across all three population groups.

The investigator added 5 administrators from the high population district group, 22 from the medium and 40 from the low population group. This provided a potential 40% response rate from each population group, based on school administrators employed in 1986 in the state of Montana.

To ensure immediate response to the questions, a telephone interview method was used. This allowed for information to be obtained immediately and still maintained the option of allowing the respondents to not answer questions if that was their desire.

To both facilitate the telephone sampling method used in this followup study and to limit the information sought to only those questions which relate directly to the thesis research questions, the following items were selected for the telephone interview. This selection eliminated information that was obtained for the project for OPI, but that did not relate directly to the thesis questions. Questions 1,2,16 and 17 were included in the phone interview because they dealt with the allocation of clinicians' work time. Questions 3,6,7 and 8 were included because they dealt with possible statewide caseload descriptors. Question 19 was included to elicit any other information the administrators might think relevant.

2.1.3. Analysis

The frequency of response and percentage responses obtained by the questions were tabulated and recorded. Total percentages of responses were then calculated for both administrator groups and the clinicians. The administrative phone sample results were collapsed with the previous administrative questionnaire results whenever a significant difference was not demonstrated as a result of analysis by the t test for independent means and χ^2 . Where the results of analysis indicated a significant difference in results, the data received from the second administrative sampling was presented separately from the original sample. The collapsed or separate responses of the groups of administrators were compared and contrasted with those of the clinicians. Later, the questionnaire responses of the clinicians and administrators were also compared to the results received from the time analysis.

2.2. Part 2 – Time Analysis

2.2.1. Development of Time Analyses

In order to develop a system for time analysis, the investigator analyzed her typical workday as a school speech and language clinician through a workday diary for two weeks. In addition, seasonal variables in caseload, such as school speech and language screening, preschool screening, and annual meetings concerning students were identified. The various activities conducted during workdays were assembled on a key as a basis for the time analysis. A time analysis format was devised by the investigator as a work week calendar. Each day was divided into

fifteen minute segments. Activities performed were assigned to the time segments in order to describe the clinician's working days, in accordance with the activities the key provided.

This draft of the time analysis was distributed to a small sample (12) of working school speech and language clinicians around the state for a trial period of two weeks to discover problems in understanding or recording, or to obtain additional activities. The time analysis was modified for ease in recording, based on feedback received from these participating clinicians. Appendix B contains the Time Analysis.

2.2.2. Subjects

A print-out of the populations of all public schools in the State of Montana was obtained from O.P.I. and the state's schools were divided into three groups. Group #1 represented low population districts and was based on elementary schools of up to approximately 200 students and high schools of up to approximately 150 students. A one classroom per grade contains approximately 25 - 30 students. Group #2 is based on two classrooms per grade of approximately 25 - 30 students. Elementary schools contain up to 500 students and high schools up to 500 students. Group #3 encompassed the rest of the state's schools, the highest population districts. Elementary schools contain up to 738 students and High Schools contain as many as 2031 students.

Criteria used to select participating clinicians for the study were: a) full time school clinician, b) employment in one of the three population size school districts and c) representation of the variety of geographic regions. Telephone contact was

made with 58 clinicians to obtain 30 clinicians to participate, 10 for each population district size. Contact with 58 clinicians was necessary to achieve the desired 30 clinicians, 10 for each population group. 10 clinicians involved in the pilot time analysis participated in the final study when they met the necessary criteria. No reliability or validity measures were obtained on the data.

2.2.3. Procedure

The time analyses were completed by all study clinicians for the same three monthly periods, representing the beginning, middle and end of the school year. These time periods were designed to reflect the changes in job activities throughout the school year. For example, screening of school-aged children for speech and language problems usually takes place in the fall, preschool screenings take a block of time usually during the winter or spring. Certain times of the year, particularly early fall or late spring may have more student meetings to determine scheduling and therapy needs than at other times.

The analysis formats were collected at the end of each timekeeping month and analyzed for percentage of time/month spent for each job and job related activity.

2.2.4. Measurement

The time analysis results was analyzed by percentage of time/month spent, broken down by job and job related activities of the speech and language clinicians. Then these results were examined across population and seasonal variables.

Chapter 3

RESULTS AND DISCUSSION

The present study was designed to investigate two specific issues. First the project examined the historical perspective of the development of the current special education provision system in the public schools. Second, an analysis of that current system and how it related directly to speech/language therapy was conducted. Specifically the following questions were addressed: 1) What are the most useful and efficient speech and language caseload descriptors to be used on a state-wide record keeping system - from the viewpoint of the speech/language clinician, and from that of the administrators of those clinicians? 2) How does the speech/language clinician in the schools allocate and spend her/his work time?

To examine the issues, two methods were devised. The first method employed a questionnaire, which was distributed to and returned by appropriate personnel in the state. A second sampling included phoning additional administrators to increase the number of respondents. The second method for examining the issues was a time analysis. The time analysis was maintained by selected speech and language clinicians in the schools who met specific guidelines for population size of work sites.

Statistical methods were used to analyze the data. Answers of clinicians' and administrators' were analyzed into mean percentages for each question. The two administrators groups; group 1 - the mailed questionnaire, and group 2 - the

phone sample of selected items from the questionnaire were then compared. The t test for independent means was used to determine if the questions with percentage responses could be collapsed across the two administrative samples. This was based on the premise that the t test determines whether performance differences between two groups is significant. A χ^2 statistic was used to determine whether the yes/no question responses could be collapsed across the two samples since χ^2 shows relationship when frequency of response data is available for two groups. The two administrative groups' results were collapsed when they were significantly related according to the results of the χ^2 and t statistic analyses, at the .01 confidence level. When the responses differed significantly, the results of the two groups were presented and discussed separately.

T test for independent means and χ^2 were used, as described above, to analyze and compare clinicians' and administrators' responses to the questionnaire. This allowed for discussion of differences and similarities between these two groups.

The t test for independent means was first calculated for the most widely differing percentages. If no significant difference was found by the analysis at this level, analysis was discontinued and all answer options with smaller percentage differences were considered to be nonsignificant. If a significant difference was found at the widest percentage difference, the statistic was then repeated for the next widely differing percentage, and continued until a nonsignificant difference level was found, if possible, from data given.

The t test for independent means provided significance results for each pair of percentage responses being compared. Chi² test analyzed answers to yes/no/no answer questions altogether and determined whether the total pattern of responses from each group was significantly related/not related to the pattern of responses of the other group in the comparison. If the chi² differed, differences were discussed descriptively since chi² analyzes only the total pattern of the response. A .01 level of significance was used because of the number of times the statistic was repeated. This level reduced the chance occurrence of significance/nonsignificance due solely to number of times the statistic was repeated.

The following discussion will present three results. First, the questionnaire results will be described in terms of clinician vs. administrative results. Second, the questionnaire results of the administrative responses were compared to the phone sampling results. Third, the clinician time analysis results will be presented, with comparison to clinician and administration questionnaire responses.

3.1. The Questionnaire

The questionnaires were mailed to 235 administrative personnel, including school superintendents, special education directors and special education co-operative directors. In addition, 181 school speech and language clinicians were mailed questionnaires. These represented personnel working in Montana, based on addresses supplied by the Office of Public Instruction and the Montana Speech, Hearing and Language Association.

The questionnaires were returned by 52 administrative personnel (22.13%) and three letters, critical of the method of gathering information, were also received from administrators. Seven (13.4%) of the administrative questionnaires returned were not completed. Seventy (38.67%) of the speech/language clinicians returned the questionnaire.

An increase in the number of administrators responding to the questionnaire was necessary to allow the investigator to place more confidence in interpreting the data. The initial results from the administrators were not evenly distributed across the small, medium and large size population groups. The supplemental sampling was employed to minimize this problem.

The supplemental sampling included five administrators from the high population group, 22 from the median group and 40 from the low population group. This provided a 40% response rate from each population group, based on administrators employed in 1986. The supplemental phone results were collapsed with the previous questionnaire results wherever the data agreed, as demonstrated by t tests for independent means and χ^2 .

The format for presenting the results will include first the statement of the question. This will be followed by the percentages of responses to that question for the clinicians (left hand column) and the administrators (right hand columns). The type(s) of administrative response presented will be noted above the results for each question, that is whether the results of each sample of administrators or a collapsed sample of administrators is presented. A star will indicate a significant difference between groups and the statistical result of the significantly differing

groups will be presented below the percentages. Appendix C contains range of scores for both groups of administrators and the clinicians for the percentage of response questions.

3.2. Comparative Descriptive Results

Question #1: Please note approximate percentage (based on 100%) of time/year utilized in the following activities:

Clinician %	Activity	Collapsed Administration %
58.51	Direct Therapy	60.47
3.94	Screening	5.15
7.93	Evaluation	5.91
3.41	Meetings	2.94
1.74	Monitoring (client)	1.64
5.36	Preparation Time	3.92
1.72	Professional Consultation	2.77
6.46	Paperwork	4.72
1.00	In-Service	1.46
3.34	Parent Counseling/ Conferences	2.93
.92	Audiological Follow-up	1.12
5.31	Travel	7.02
.27	Other	-----

(t test for independent means score:(Administrator group 1 - Administrator group 2): .36, (Clinician - Collapsed Administration): .80, not significantly different at the .01 level. Both samples did not differ.)

The agreement between the scores overall seemed to indicate accurate information concerning utilization of the speech/language clinician was known by, or was readily available to the administrators. Both clinicians and administrators agreed as to how clinician's time is expended. The importance of the results to this question appeared to be that at least on the local school district level, there was knowledge that the clinician was involved in many job activities, other than direct therapy. This accurate description of the role of the school speech/language clinician is important information for higher levels of administration to have when making decisions affecting those clinicians. Current decisions are being made primarily on the basis of information the state gathers on child-count - which describes only therapy case numbers.

Question #2: Does the speech/language clinician in your school(s) have time allocated in their schedule for any of the above?

* Overall results differed between two groups of administrators and administration and clinicians.

Clinician %	Activity	Administration %	
		(Group 1)	(Group 2)
68.33	"Yes"	77.28	52.24
16.67	"No"	11.36	46.27
15.00	"No Answer"	11.36	1.49

*(chi² score: 16.81, patterns of answers differ significantly between administrative groups, chi² score: >.03, patterns of answers differ

significantly between clinicians and administrators).

Question #2 continued: If yes, please note approximate percentage (based on 100%) of scheduled time/year: (Percentage data for the second half of Question 2 was not obtained from Administrative group 2).

Clinician%	Activity	Administration (Group 1) %
73.15 *	Direct Therapy	62.66
2.62 *	Screening	9.67
5.81	Evaluation	7.33
2.08	Meetings	.17
.65	Monitoring (client)	---
1.96	Preparation Time	.67
.54	Professional Consultation	---
2.04	Paperwork	.33
.42	In-Service	.67
2.89	Parent Counseling/ Conferences	.83
.85	Audiological Follow-up	---
6.46 *	Travel	17.33
.02	Other	---

*(t test for independent means score: >2.75, significantly different at the .01 level). Unmarked percentages indicate comparison is nonsignificant between clinicians and administrators.

The administrators' mailed questionnaire responses (group 1) estimate of clinicians scheduled time increased evaluation and travel, from responses to Question 1 and decreased time scheduled for all others, again, in comparison to Question 1 responses. Administrators and clinicians reported a work schedule that included time for all these activities rather than taking time from direct therapy when necessary. The clinicians reported scheduling themselves for more direct therapy and travel, and less for all other activities than their responses to Question 1 indicated. A significant difference in scores between clinicians and administrators occurred for responses on direct therapy. Screening and travel were both scheduled at a significantly higher percentage of time in administrative estimation than for the clinicians. Clinicians, apparently, are somewhat reluctant to schedule time for activities other than direct therapy, although both the clinicians and the administrators indicated a variety of activities occurred.

The administrators (group 2) who reported time was scheduled for activities other than direct therapy listed screening and in-service as those activities. Percentage of time per year data obtained from this group was extremely limited (less than 2% of phone sample administrators answered this portion of the question with specific percentage information). This differs from the group 1 administrators' response, but probably represents the most visible (to the administrators) schedule items. For example, the administrators schedule much of the in-service on their district calendar and reported being aware that many clinicians do not begin therapy in the fall until screening is finished. Possibly the time lag between the two administrative samples explains some of the difference

in opinion reported on this portion of Question 2. Many administrators currently reported concerns about cost effectiveness for time, whereas that concern may not have been as important to the original administrative sample.

More accurate information needs to be available to education personnel regarding the time needed to provide activities other than direct therapy. Responses to this question also suggested in-service needs of the clinicians on how best to schedule. They indicated the activities take place (Question 1) but that they do not schedule time for them as needed (Question 2). The clinicians and administrators have both indicated the necessity of activities other than direct therapy. Teachers, as the primary caretaker of the child in the school setting, may also need information on how other activities relate to optimal therapy progress, since some clinicians commented that time not involved in direct therapy is often questioned by them. This is also supported by a study (Ruscello, 1980), that reported teachers' concerns over allocation of time. Teachers must be made aware of the importance of all activities involved in treating a child with speech/language problems, realizing that direct therapy is only one of several ways students can be helped to improve their communication.

Question #3: Please note approximate percentage (based on 100%) of the speech/language clinician's caseload by appropriate disorder:

Clinician %	Activity	Collapsed Administration %
35.27	Articulation	42.27
19.50	Language	16.13
1.10	Language (written)	2.21

15.19	Language Learning Disabled	10.01
1.99	Voice	3.07
3.86	Fluency	4.60
2.30	Hearing Impaired	4.14
18.35	Articulation/Language	16.76
.67	Other	.68

(t score: Group 1, Group 2 Administrators: .13, not significantly different at the .01 level, Clinicians vs. Administrators: 1.07, not significantly different at the .01 level).

No significant differences occurred between the clinician and collapsed administration groups. The scores on this question suggested this classification system was an effective way to describe speech/language caseloads; the category "other" contained a low percentage. Perhaps the "other" category could be changed to "other combinations/other disorder" and this framework would provide more accurate caseload description information.

Question #4: Please describe or attach a copy of the objective criteria used for including students in a caseload: (Administrative data contains only responses of group 1 - Administrative group 2 was not asked to respond to this Question.)

Clinician - 5% reported differing objective criteria development in progress, 3.33% attached their objective criteria. 40% mentioned different standardized tests, 21.7% of the speech/language clinicians did not answer this question.

Administration - "Testing" was mentioned by 22% of the administrators, the "child study team process" was the answer of 10%. "Severity" and "determined by

therapist" each accounted for 4% of the answers. There were other individual answers and 48% of the administrators did not answer this question.

The greatest percentage of clinicians reported presently using some variation of standard deviation from the norm on standardized testing for caseload selection. Speech/language clinicians should not be restricted to just standardization data, in terms of case selection, since normative information is not available for many disorders served by our profession, i.e., fluency and voice. In addition, the validity and reliability of standardized tests should be considered. Whether or not the norms on standardized tests are appropriate for students in Montana is unknown at this time. Even more importantly, whether the speech/language disorders populations are distributed normally, is not known and therefore statistically "normed" procedures may be inappropriate. Descriptive data of the individual child's abilities in developmental areas, including speech/language abilities, if well recorded, can be objective. Complete descriptive data therefore, could be used effectively with clinician judgement, as sufficient criteria for caseload inclusion. The professionals involved in the actual intervention (i.e. speech/language clinicians through the professional organization, MSHA) may be the ones best informed to develop caseload guidelines. Descriptive data and clinician judgement should be the basis of any such guidelines.

Question #5: For optimum progress, are there children seen in the speech/language clinicians' caseload who could benefit from more therapy time than they presently receive? If yes, please note approximate percentage (based on 100%) of caseload affected, by appropriate disorder: (Administrative data contains

only responses of group 1 - Administrative group 2 not sampled for this question).

* Overall responses to yes/no/no answer portion of question differed between clinicians and administrators

Clinician %	Activity	Administration %
75.86	"Yes"	57.14
3.45	"No"	9.52
1.72	"No Answer"	11.90
<hr/>		
18.97	Supplied Information	Too small to score (#)
16.50	Articulation	8 (#)
24.60	Language	12 (#)
6.00	Language (written)	3 (#)
15.80	Language Learning Disabled	8 (#)
.1	Voice	3 (#)
4.7	Fluency	4 (#)
2.6	Hearing Impaired	4 (#)
30.1	Articulation/Language	3 (#)

*(chi² score: 6.95, patterns of answers differ significantly between clinicians and administrators). # (represents number of scores - not percentage answers, too few administrative responses to score were obtained - analysis not possible).

There was very little direct relationship between the administrator and clinician scores on the question. Patterns of answers differ significantly between the clinicians and administrators. Clinicians reported a higher percentage of students who could benefit from more therapy than did the administrators. In addition, several comments from both groups expressed problems with the basis of this question and the efficiency of optimum progress.

Question #6: Are children seen by the speech/language clinician(s) and labeled speech impaired on the current special education child-count form who could be more specifically labeled? If yes, please check the labeling system below that you feel would be more appropriate:

* Significant overall response between clinicians and administrators

Clinician %	Activity	Administration %	
		(Group 1)	(Group 2)
18.03	Communication Disability	14.81	10.45
21.31	Language Disorder Voice/Fluency Disorder Articulation Disorder	11.11	16.42
29.51	Speech Disorder/Language Disorder/Content of Language-- voice, phonology, semantics, articulation, morphology, function of language, fluency, syntax, pragmatics	22.22	5.97
6.56	Other	7.41	--
18.03	Yes, with no choice	3.70	--

If the needs of the state are being met by the single label, at least let it represent the students that are being seen, i.e. communicatively handicapped. If more accurate and descriptive information would be useful to the state and federal governments, several alternatives should be considered. Speech-impaired and language-impaired is another labeling system that is concise but slightly more descriptive and useful than the present one. One of the questionnaire choices with a foil added for "others" is another possibility. This issue could be referred to professionals in MSHA for development of an appropriate labeling system. (A label recommended by a consensus of a MSHA committee could be offered to the speech/language clinicians.) OPI and MSHA could receive both accurate child-count information and more descriptive caseload information needed for program planning and funding in one data collection if the present system were changed.

Question #7: Please rank the following severity scales in order of preference. (1 = most important, etc. - group preference order listed to the left of percentage information).

Clinician %	Activity	Administration % (Group 1) ~ (Group 2)
5 3.10	Severity by amount of direct therapy/week (1 hour, 2 hours, etc.)	4 2.71 1 2.34
4 2.93	Severity by setting of therapy (monitoring, in regular class, group therapy, private therapy, in resource room, in self-contained room, etc.)	5 3.23 5 3.95
2 1.78	Severity by number of speech/language problems involved	3 2.71 2 2.36

3	1.88	Severity by evaluation of other aspects of the child's life, as well as actual speech/language impairment (social maturity, effect of the impairment of self/important others, motivation, etc.)	2	2.48	4	3.47
1	1.69	Severity by criteria established on all tests used in speech/ language evaluations (1 year or 1 standard deviation difference between chronological age and developmental age, 2 year or 2 standard deviation difference, 3 year or 3 s.d. difference)	1	1.68	3	2.92

~ (Results not collapsed because ratings did not agree)

Clinicians and administrative group 1 (mailed questionnaire) agreed on the method of determining severity by criteria on tests (preference 1). The phone sampled questionnaire group did not agree with either the clinicians or administrative group 1. The administrative group 2 ranked severity by amount of direct therapy/week as their preferred scale. Their second choice - severity by number of speech/language problems involved - was also ranked second by the clinicians group. Different administrators and the time difference - three years later, could explain the differences in administrators' estimates and may represent a shift away from evaluating on a strict criterion basis only.

Again, as in Question #4, statewide severity guidelines could be useful to clinicians as long as they were general guidelines. Any guideline must take into account that all speech/language disorders do not fit into a standardized framework, and follow the premise that clinical judgement of the clinician is most

important in determining severity of any disorder. Accurate caseload description – by disorder – could be helpful in determining special services needs and duration of those services, for funding decisions.

Question #8: Does your school/district/co-operative have a formal procedure to document changes (case dismissal, change in handicapping condition, move from district, etc.) in speech/language clinician's cases for future reference?

* Significant overall response between administrative groups, and between clinicians and administrators.

Clinician %	Activity	Administration %	
		(Group 1)	(Group 2)
71.20	Yes	76.74	82.09
27.10	No	16.28	13.43
1.70	No Answer	6.98	4.48

* (chi² score: .22, patterns of answers differ significantly between administrative groups. chi² score: >4.90, patterns of answers differ significantly between clinicians and administrators).

Question #9: Does your school/district/co-operative have an objective procedure to document client progress in speech/language therapy? (Administrative data contains only responses of group 1 – Administrative Group 2 not sampled for this question.)

* Significant overall response between clinicians and administrators

Clinician %	Activity	Administration %
58.60	Yes	72.00
39.7	No	16.30

f) not recorded

(Administrative data contains only responses of group 1 -
Administrative group 2 not sampled for this question.)

		a.	b.	c.	d.	e.	f.
Hearing Test Results	Clin	1.89	16.98	29.25	30.19	21.70	----
	Adm	7.14	20.24	28.57	30.95	13.09	----
Speech/Language Screening	Clin	6.25	13.75	13.75	----	6.25	3.75
	Adm	8.06	25.81	27.42	12.90	24.19	1.61
Speech/Language Test	Clin	8.41	44.86	14.02	----	32.71	----
	Adm	13.04	36.23	15.94	5.80	28.99	----
Type of Therapy	Clin	27.87	45.90	8.20	----	18.03	----
	Adm	20.55	43.84	12.33	2.74	19.18	1.37
Setting of Therapy	Clin	19.54	40.23	4.60	----	19.54	16.09
	Adm	22.22	42.86	6.35	1.59	12.70	14.29
Educational Significance	Clin	5.80	37.68	8.70	----	21.74	26.09
	Adm	12.28	43.86	7.02	3.51	17.54	15.79
Progress	Clin	44.35	25.22	8.70	----	20.87	.87
	Adm	31.88	37.68	13.04	1.45	15.94	----

The results on Questions #8,9,10, and 11 will be discussed together since all four questions dealt with recordkeeping of special education information in conjunction with regular school recordkeeping. On Questions #8 and 9, the great majority of both clinicians and administrative groups (Question #8 - Administrative group 1 and 2, Question #9 - Administrative group 1) responded that their school/district/co-operatives had procedures in place to document client changes and therapy progress. On Question #10, the clinicians responses were divided fairly evenly over the yes and no responses, but the majority of administrators

responded yes, so clinicians had more questions about the documentation of case dismissal than did the administrators. The responses to Question #11 indicated that the information is kept, but certainly not in any established location in the estimation of either the clinician or administrators, based on the diversity of answers obtained. This lack of consistency in recording speech, language and hearing information, in any consistent central place may indicate a serious problem in sharing and making available information concerning speech/language therapy students.

In the interest of effective communication between school officials and special education personnel, there should be consistent objective procedures for documenting and recording special education student information. Further, an indicator/paper trail in the established folder for each child (cumulative folder) could note further information is available elsewhere. This should be implemented as standard state special education procedure and should be monitored by the state, as part of the special education audit procedure.

Question #12: What percentage (based on 100%) of the speech/language clinician's caseload involves preschool children under the age of six years? Describe or attach criteria used to include a preschool child in the caseload. (Administrative data contains only responses of group 1 - Administrative group 2 not sampled for this question.)

Clinician %

Administration %

9.50

9.40

(t test for independent means score: .07, no significant difference at the .01 level).

Question #12 continued: Does your school/district/co-operative impose any restrictions about when preschool children may be seen?

*** Significant difference overall between clinicians and administrators**

Clinician %	Activity	Administration %
10.23	Before/after school hours	11.11
26.14	During school hours, if all school aged served	47.22
4.55	Other	5.56
59.10	No restrictions	36.11

***(chi² score: 3.66, patterns of answers differ significantly between clinicians and administrators.)**

Both groups responded similarly on Question #12, with regard to total percentage of preschool children in caseload. More administrators responded that preschoolers must be seen during school hours, if all school-aged were served, however more clinicians reported no restrictions on when to see the preschoolers. This represents a differing viewpoint on restrictions concerning when preschoolers may be seen, again, possibly indicating a lack of effective communication between clinicians and administrators. Reasons listed for including preschoolers in caseload included severity of the case and potential for more rapid growth in skills.

Question #13: If preschool children are seen by the speech/language clinicians, please note percentage (based on 100%) of preschool caseload by appropriate disorder: (Administrative data contains only responses of group 1 - Administrative group 2 not asked to respond to this Question.) (Administrators did

not answer with enough correct percentage information to score, but the following listing under administrators represents the number of times each disorder was marked/chosen.)

Clinician %	Activity	Administration #
22.10	Articulation	17
21.17	Language	9
----	Language (written)	---
3.28	Language Learning Disabled	5
.68	Voice	1
3.83	Fluency	4
3.66	Hearing Impaired	6
56.38	Articulation/Language	12
2.66	Other	----

The answers to this question and the previous question seem to indicate some need for in-service to administrators, since administrators reported most of the children were being seen for articulation, whereas the clinicians reported the most preschoolers with combined articulation/language disorder were seen for therapy. The clinicians' response to this question probably provided more accurate information regarding caseload composition than did the responses of the administrators.

Question #14: Is the use of a trained aide, supervised by a speech/language clinician, appropriate in your district/area? (Administrative data contains only

responses of group 1 - Administrative group 2 was not sampled for this question.)

* Overall significant difference between clinicians and administrators

Clinician %	Activity	Administration %
42.37	Yes	42.86
54.24	No	54.76
3.39	No Answer	2.38

*(chi² score: 2.81, patterns of answers differ significantly between clinicians and administrators.)

Question #14 continued: Do you utilize an aide?

* Overall significant difference between clinicians and administrators

Clinician %	Activity	Administration %
13.56	Yes	23.26
83.05	No	67.44
3.39	No Answer	9.30

*(chi² score: 2.76, patterns of answers differ significantly between clinicians and administrators.)

Question #14 continued: Describe training of aide used: What percentage of caseload by disorder could be/is appropriate for the utilization of an aide? (Neither clinicians or administrators listed enough information to be scored, but the following is a listing of the number of times each disorder was marked for utilization of an aide:)

Clinician #	Activity	Administration #
-------------	----------	------------------

8	Articulation	4
9	Language	4
2	Language (written)	-
7	Language Learning Disabled	1
-	Voice	-
1	Fluency	-
2	Hearing Impaired	1
5	Articulation/Language	-
4	Other (secretarial)	3

More clinicians and administrators indicated that the use of aides was not appropriate in their districts. However, according to the numbers reported by both of these groups on the second portion of the question, in comparison to the first portion of the question, an aide could be used more than indicated at the time of the sample. The results of both groups indicated an aide may be utilized more than is presently being done. Specific aide usage would probably depend on the individual situations, as indicated by the variety of answers concerning ways to utilize an aide. Each clinician may feel differently about how best to use the aide according to her/his caseload and the training of the aide, since in the responses to the training of the aides presently being used, the answers varied across the spectrum from "no training" to "masters - doing clinical practicum".

Question #15: The number of "speech-impaired" students continues to increase on the state special education child-count. What percentage (based on

100%) of this increase do you attribute to: (Administrative data contains only responses of Group 1 - Administrative group 2 not asked to respond to this question.)

Clinician %	Activity	Administration %
3.16	Misclassification of normal as disordered	5.65
24.33 *	Better identification	34.84
7.49	Misclassification of maturational performance as disordered	8.23
9.06	Better reporting	9.19
5.89	Maintaining in caseload beyond reasonable amount of time without progress	4.68
44.89 *	More children with language disorders included in caseload	28.71
5.19	Other	8.71

*(t test for independent means scores: > 1.81, significantly different at the .01 level). Unmarked percentages indicate comparison is nonsignificant between clinicians and administrators.

The results of this question addressed O.P.I.'s concern as to why the number of speech-impaired continues to increase. "More children with language disorders in caseload" and "better identification" were chosen more frequently by the speech/language clinicians, amounting to more than 69% of their total percentage. The same two choices, in reverse order, were chosen by the administrators as

their most frequent answers to the increase, representing more than 63% of their total percentage. These two reasons are clearly the main choices of the two groups to answer Question 15, but their explanations of increase differ significantly. The responses to this question address again the need for in-service to administrators concerning the speech/language clinicians' caseload. Reasons listed under "other" included the following: more language disordered children, more impaired children of all kinds, better training of clinicians, and later date of child-count.

Question #16: Are children seen by the speech/language clinician(s) that are also seen by another special service provider in the school?

* Overall significant difference between administrative groups and also between clinicians and administrative groups

Clinician %	Activity	Administration %	
		(Group 1)	(Group 2)
72.88	Yes	67.44	82.09
1.69	No	11.63	13.64
25.43	No Answer	20.93	4.27

*(chi² score:>4.33, patterns of answers differ significantly between clinicians and administrative groups.)

Question #16 continued: If yes, please note approximate percentage (based on 100%) of caseload by appropriate disorder:

Clinician %	Activity	Administration %	
		(Group 1)	(Group 2)
12.06	Articulation	18.57	*a 14.22

Collapsed Administration %

18.77		Language	14.22
.88	*c	Language (written)	8.55
36.47		Language Learning Disabled	34.36
.88		Voice	.99
.65		Fluency	1.52
.94		Hearing Impaired	5.36
28.82		Articulation/Language	15.04

*a (t score: 3.30, significant difference present at the .01 level between administrative groups)

*c (t score: 1.01, significant difference present at the .01 level between clinicians and collapsed administration)

Unmarked percentages indicate comparison is nonsignificant between clinicians and administrators.

The responses to this question indicated a sharing of students between special service providers. Children with learning problems or physical problems often have communication problems as well. Language learning disabled was reported as the primary disorder being seen by more than one provider by both the collapsed administrative and clinician groups. Written language was the disorder which differed significantly in percentage reported by clinicians and administrators, with clinicians reporting very little dual service for this disorder. Administrators indicated more dual service for Written Language than did the clinicians. These scores reflect back to Question #3: accurate caseload description needs to be provided to administration. The clinicians' results also serve to help describe what types of disorders are frequently seen by more than one provider;

Articulation, Language, Language Learning Disabled and Articulation/Language have much greater percentages than the other disorders listed. (96% of total)

The administrators groups' disagreement on score for Articulation may represent learning by administrators during the time lag between samples. Administrators'(Group 2) score was lower than Administrators' (Group 1) and closer approximated the percentage reported by the clinicians who have more accurate caseload information available. Overall, the similarity in the majority of the scores represented an acceptance/understanding of reasons for dual service.

Question #17: If children are seen by the speech/language clinician(s) that are also seen by another special service provider in the school, please note the speech/language clinician's role, by letter, by appropriate disorder:

- a) consult with classroom teacher
- b) consult with other provider
- c) provide indirect therapy (goals and supervision)
- d) provide direct therapy in other provider's setting
- e) provide direct therapy in separate setting, planned with other provider
- f) provide direct therapy in separate setting, NOT planned with other provider
- g) none of the above

	a.	b.	c.	d.	e.	f.	g.
Articulation							
Clin.	29.73	13.51	5.41	4.05	10.81	21.62	14.86
Adm.(Gp 1)	21.88	15.63	6.25	3.13	18.75	15.63	18.75

Adm.(Gp 2) 17.24 20.69 17.24 17.24 13.79 13.79 ---

Language

Clin. 18.10 18.10 6.67 8.57 24.76 10.48 13.33

Adm.(Gp 1) 19.51 21.95 12.20 4.88 24.39 7.32 9.76

Adm.(Gp 2) 22.81 24.56 17.54 12.28 8.77 14.04 ---

Language(Written)

Clin. 10.81 9.46 6.76 8.11 12.16 2.70 50.00

Adm.(Gp 1) 12.90 12.90 9.68 9.68 16.13 3.23 35.48

Adm.(Gp 2) 19.44 19.44 16.67 13.89 13.89 16.67 ---

Language(Learn.Dis.)

Clin. 22.22 22.22 5.13 6.84 27.35 7.69 8.55

Adm.(Gp 1) 19.15 21.28 12.77 10.64 21.28 6.38 8.51

Adm.(Gp 2) 19.47 23.01 15.04 12.39 11.50 18.58 ---

Voice

Clin. 18.57 8.57 2.86 2.86 7.14 11.43 48.57

Adm.(Gp 1) 20.00 13.33 10.00 6.67 13.33 10.00 26.67

Adm.(Gp 2) 15.79 21.05 15.79 21.05 10.53 15.79 ---

Fluency

Clin. 19.23 8.97 5.13 5.13 8.97 11.54 41.03

Adm.(Gp 1) 15.15 12.12 9.09 9.09 21.21 12.12 21.21

Adm.(Gp 2) 17.86 17.86 17.86 14.29 14.29 17.86 ---

Hearing Impaired

Clin. 20.88 13.19 4.40 4.40 18.68 7.69 30.77

Adm.(Gp 1) 17.07 17.07 12.20 4.88 19.51 12.20 17.07

Adm.(Gp 2) 18.92 18.92 16.22 10.81 16.22 18.92 ---

Articulation/Language

Clin. 22.52 21.62 4.50 4.50 23.42 13.51 9.91

Adm.(Gp 1) 19.15 19.15 14.89 8.51 23.40 4.26 10.64

Adm.(Gp 2) 18.64 22.03 15.25 13.56 11.86 18.64 ---

Italicized scores indicate highest percentage

The scores indicated agreement between the initial clinician and administrative (Group 1) questionnaire groups. The scores also described the

speech/language clinician's role in serving the various disorders. The scores described the roles the clinicians provide in dual service of the disorders listed (when more than one special service provider serves a child). The initial questionnaire sample groups (Clinician and Administrator Group 1) expressed a strong consensus concerning optimum method of treatment of speech/language problems. They agreed both in which specific services providers were involved and the specific setting of the therapy. The ratings of the telephone sampled group did not agree with the original administrative group. For every disorder group listed, the group 2 administrators chose role b) consult with other provider, as at least one of their highest percentage choices. This indicates a strong preference by Administrative Group 2 for this role being at least part of any dual service. The overall disagreement between the two administrative groups may also be explained by the different sampling method: not being able to look over all the choices and think about how they relate to the disorders may have affected the Administrative (Group 2) answers.

Question #18: Please note who currently evaluates the speech/language clinician(s) job performance in your school(s)? Do you think that this person(s) is knowledgeable enough to evaluate the speech/language clinician's role in the school setting? The speech/language clinician's professional competence? Is the speech/language clinician advised of evaluation criteria prior to observation? (Administrative data contains only responses of group 1 - Administrative Group 2 not asked to respond to this question.)

* Significant overall difference between clinicians and administrators, with the exception of: **responses did not differ between clinicians and

administrators

	Principal		Spec.Ed.Dir.		Superintendent	
	(C)	(A)	(C)	(A)	(C)	(A)
Percentage Evaluated by:	37.04	27.50	51.85	55.00	3.70	17.50
Evaluate Role in School Setting (yes)	50.00	45.45	53.57	95.45	100.00	**100.0
Evaluate Professional Competence (yes)	25.00	27.27	35.71	90.91	50.00	87.71
Advised of Evaluation Criteria (yes)	80.00	45.45	75.00	6.36	100.00	85.71

(yes) indicates the percentages of yes answers for the administrators listed at the top of the chart, (C) indicates clinician answers, (A) indicates administrators answers.

*(chi² score: >0.00, patterns of answers differ significantly between groups, with the exception of: **chi² score: 0.00, clinician and administration opinion concerning superintendents evaluation of clinician's role in school setting: nonsignificant difference.)

The following percentages were listed in addition to the more common choices reported above. Clinicians reported evaluation by general administration: 3.70%, Assistant Director of Special Education: 3.70%, Outside Consultant/Supervisor: 1.85%, Speech/Hearing/Language Coordinator: 1.85%, No One: 1.85% and Self: 1.85%.

The clinicians responding to the questionnaire were more supportive of evaluator's knowledge about their role in school setting. They agreed with

superintendents' estimation of ability to evaluate that role, but expressed concern about evaluation of their professional competence. Reportedly, they were usually advised of evaluation criteria in advance.

Question #19: What other information would you like to see included on the federal/state mandated child-count forms?

57.63% of the speech/language clinicians and 76.74% of the original administrators group did not answer this question. Comments from those who responded included: credit for time spent on other than direct therapy, more specificity in labeling, severity by some objective criteria, report of actual time seen for therapy instead of rounding to the next hour, and how long the child has been receiving services.

100% of the phone sample administrators answered this question. 73.13% answered "No other information", suggesting approval of the present system. Those who did offer other information, reflected some of the same comments as those listed above for the questionnaire sampled administrators. Several different comments were added by the group 2 administrators, perhaps prompted by the changes in special education in this current year. Group 2 comments included: need an avenue to have clinicians on staff - cannot obtain services or need more, desire severity rating method, desire some avenue to record administrative viewpoint, want some method of relating school population size to actual costs of providing adequate services and suggestions to eliminate child-count.

Although a wide range of viewpoints were expressed regarding information gathered on child-count, in general a need for more accuracy and specificity in

reporting was described. Also, administrators would like an avenue to voice problems/concerns to OPI on a regular basis.

Question #20: Are there other data you would find useful to your professional accountability? (Administrative data contains only responses of group 1 - Administrative Group 2 not sampled for this question.)

54.24% of the clinicians and 65.12% of the administrators did not answer this question. 33.00% of the clinicians and 30.23% of the administrators answered no, and the comments of those that answered included the following: professional goals, continuing education, accounting for travel, and complete job descriptions. The "no" and "no answer" responses together represented 87% of the clinicians and 95% of the administrators. This indicated a lack of interest or lack of knowledge concerning gathering professional accountability information at the time of sampling.

Question #21: Would you describe the speech/language clinician as: (Administrative data contains only responses of group 1 - Administrative Group 2 not asked to respond to this question.)

* Overall significant difference clinicians and administrators

Clinician %	Activity	Administration %
5.08	A teacher with special responsibilities	23.68
77.97	A rehabilitation professional providing services in school	68.42
13.56	Other	7.80

***(chi² score: 7.33, patterns of answers differ significantly between clinicians and administrators.)**

Although the patterns of answers differ according to profession, these results indicated higher percentages for both clinician and administrative groups to describe the speech/language clinician's role in the schools as a rehabilitation professional providing services in the schools. The second choice of each group differed and this may have accounted for the overall statistical difference found as a result of analysis of this question's responses. Both clinicians and administrators apparently recognize the difference in training and duties between teachers and speech/language clinicians.

3.3. Time Analysis

In order to develop a system for time analysis, the author analyzed her typical workday as a school speech and language clinician through a workday diary for two weeks. In addition, seasonal variables in caseload such as school speech and language screening, preschool screening, and annual meetings concerning students were identified. The various activities conducted during workdays were assembled as a basis for the time analysis. Each day was broken down into fifteen minute segments. Activities performed were assigned to the time segments in order to describe clinician's working days. This time analysis format was distributed to thirty clinicians representing the various population areas of Montana, to investigate, in depth, the work schedule of the public school speech and language clinician.

Selection of the 30 clinicians was based on school populations. A print-out

of the various populations of all the public schools in the state of Montana for the 1983-84 school year was obtained from the Office of Public Instruction and the state's schools were then divided into three groups. Group #1 (10 clinicians) represented low density population districts which was based on one classroom of approximately 30 students per grade per school. Elementary schools of up to approximately 200 students and high schools of up to approximately 150 students were included. Group #2 (10 clinicians) was based on two classrooms of approximately 30 students per grade per school. Elementary schools of up to 500 students and high schools of up to 500 students were included. Group #3 (10 clinicians) encompassed the rest of the state's schools with the highest population districts. Elementary schools of up to 738 students and high schools of up to 2031 students were included.

The time analysis formats were collected monthly and analyzed by percentage of time/week spent, as related to job and job associated activities of speech and language clinicians in the public schools. These time analyses were completed for three monthly periods, which represented the beginning, middle, and end of the school year. These time periods were assumed to reflect the changes in job activities throughout the school year. The data were analyzed by population differences, by seasonal variations, and then by comparison back to the estimate given by the speech/language clinicians and administrators of job activities on the questionnaire. The results of the time analyses will be presented and discussed.

3.4. Analysis by Population Difference

Appendix D indicated time in individual direct therapy (A1) was fairly consistent across all population groups. Variations appeared in the means of providing direct therapy. The medium population and urban groups provided more time in group therapy (A2) than did the rural clinicians. With not enough students at the same site with similar problems to group effectively, this time saving avenue may have been limited for rural clinicians. The rural clinicians, instead, spent a greater percentage of time instructing another therapy agent (A4) and in providing services in other alternative settings/intervention models (A5), since most rural clinicians cannot feasibly see students for therapy as frequently as clinicians who are in a single work site.

Travel time (J) was much higher in the rural setting than the other two population groups. The more work sites involved in making up a full-time caseload in the rural setting obviously required more travel to serve. All other activities were fairly consistent across the population groups.

3.5. Analysis by Seasonal Variations

The following activities were noted as varying significantly by season. A higher percentage of time was spent in direct therapy (A) in Winter, by all groups. The highest percentage of screening (B) occurred in the Spring for rural and urban settings and Winter for the medium populated districts.

More direct therapy time seemed allotted in Winter, when both clinicians and students are not interrupting therapy time for alternate activities such as testing or

audiological screening/follow-up by the clinician, or field trips or class presentations for the students. More screening time in the winter by the medium populated group clinicians, and in the spring by the rural and urban population group clinicians probably reflected the large blocks of time taken during these seasons for preschool screening, as opposed to time for screening school aged students. All other activities were fairly consistent across the seasonal parameter.

3.6. Comparison of Time Analysis to Clinicians and Collapsed Administration Questionnaire Responses

The results of the comparison of time analysis to clinicians' and collapsed administration questionnaire response (Question 1) concerning utilization of clinician time are presented by Appendix E. The results were surprisingly consistent, no significant differences were found. Although the clinicians overestimated their time involved in all activities except meetings, consultation, paperwork, travel and other (including duty, breaks and related professional activities) on the questionnaire, the actual amounts did not vary as greatly as might be expected (less than 2%). Only evaluation, direct therapy, paperwork and travel time estimates varied more than 2%, but the variation was still less than 7%.

Both groups of administrations' estimates were similar to clinicians actual results (time analysis) in evaluation and travel, but differed more from the actual clinicians results than the clinicians' questionnaire estimates did, on virtually all other areas. The information on travel and evaluation may indicate more administrative interest in these activities and so better information – either from

self-study or information sought from the clinicians in their district.

Chapter 4

CONCLUSIONS AND IMPLICATIONS

4.1. Efficient Caseload Descriptors

A plethora of information was obtained from the results of the present study, however, certain portions related directly to the research questions. The first research question concerned useful and efficient caseload descriptors by clinicians and administrators. Four questions from the questionnaire obtained information relating to this question. The results to Question 3 indicated both clinicians and administrators described the speech/language clinicians' caseload, based on communication disorders, in a similar manner. Previous to this result, knowledge was not available as to what disorders constituted speech/language clinicians' caseloads. The categories of disorder devised for the questionnaire were apparently adequate in describing the communication disorders of students seen, since little use was made of the "other" category. Both clinicians and administrators indicated a variety of disorders seen for therapy by speech/language clinicians. The present data gathered statewide, i.e. child-count, does not begin to describe the types of disorders of children seen by speech/language clinicians. Question 6 attempted to resolve the current lack of caseload-by-disorder information for OPI by providing a proposed data system which would efficiently and accurately describe children seen by speech/language

clinicians. OPI could collect this specific disorder information for each child seen, rather than grouping all children seen for speech/language services together as "speech impaired". An agreed upon labelling system of speech and language disorders for child-count was a topic where clinicians and administrators differed significantly in opinion, with far more clinicians reporting that the current state labelling system is not acceptable. Both groups of administrators sampled responded that the label, "speech impaired" was satisfactory. None of the labelling systems provided as foils for Question 6 were clearly favored by a consensus of all the sample groups.

Question 7 concerned severity of disorder. Administrators and clinicians responding to the questionnaire agreed on test performance for a severity index. The administrators sampled by phone however chose the amount of direct therapy received each week for determining severity. Severity is not currently described on child-count forms.

Question 8 related to the first research question; it involved information regarding record-keeping. Most clinicians and administrators thought their respective districts had objective documentation procedures. The results of the study, however, indicated wide diversity in location of students' records and sharing of student information by appropriate school personnel.

In summary, the caseload disorder classification system used on the questionnaire was found to be effective to describe the disorders of children seen by speech/language clinicians. Furthermore, the label currently used by the state OPI, "speech impaired" was not assessed as adequate by speech/language

clinicians. Severity is not currently addressed by the state wide record-keeping system and no clear method of choice to rate severity was obtained from the results of the present study. Consistent centralized documentation of caseload information was also found to be a problem in local school districts.

4.2. Time Allocation

The second study question concerned allocation and utilization of clinician work time, from the viewpoints of clinicians and administrators. Four questions from the questionnaire, and the time analysis obtained information to answer this question. On Questions 1 and 2, administrators and clinicians both reported that the clinicians' work schedule and responsibility included time for activities other than direct therapy. Clinicians' responses differed significantly from the administrators' (Group 1) for estimates of time scheduled for direct therapy, screening and travel. The clinicians reported more time scheduled for direct therapy than the administrators and the administrators reported more time scheduled for screening and travel than did the clinicians. Administrators in Group 2 reported more time scheduled for screening and in-service in addition to direct therapy. These results indicated clinicians may need instruction concerning effective scheduling, relative to job responsibilities. These results again indicated the administrators have reasonably accurate information concerning the overall responsibilities of the clinician and the allocation of clinicians' work time.

In relation to the second research question, the time analysis seemed to be an effective and efficient method of obtaining information regarding the allocation

of clinicians' work time over the school year. Neither the clinicians' or administrators' estimated responses (obtained from the questionnaire) were significantly different from the clinicians actual expenditure of time.

Questions 16 and 17 involved the dual services of students by both speech/language clinicians and other special service providers. Responses to these questions further described the clinicians' utilization of work time and defined reasons the activities other than direct therapy are required. For example, meetings, professional consultation and possibly team preparation time may be required when a child is being served by more than one special service provider. Again, the responses from clinicians and administrators indicated the role of the clinician was understood.

In summary, with regard to time, the clinicians allocated and expended their work time in a variety of activities - not just in direct therapy. Some training in scheduling procedure for clinicians may make schedules more accurately describe actual time utilization procedures. The time analysis was an effective procedure for describing the actual expenditure of clinicians' work time and is an important method to continue in order to obtain current information regarding utilization of time.

The remainder of this chapter will discuss 3 topics: 1) an assessment of procedures used and results obtained in this study, 2) implications derived from the results of the present study and 3) suggestions for future research.

4.3. Assessment of Procedures and Results Obtained

Problems of the study were encountered in the questionnaire sampling method and in comparing the information obtained by the supplemental phone sampling. In addition, the amount of information solicited and the statistical analyses used were problematic. These topics will be further discussed.

Adequate responses were obtained to the questionnaire method from clinicians (38.67%) but a poor return (22.13%) was obtained from the administrators. The questionnaire sampling method allowed for non-interested persons to not return the questionnaire. Consequently, the initial low return from administrators may have been due to a lack of interest on the topic of the present study. For a questionnaire sampling method to be effective across groups of subjects, the investigator needs to ensure that the groups are interested to the same degree or have some way to ensure subjects responding. This was not done in the initial sampling. Phone sampling data was employed to supplement the administrators' responses to the original questionnaire, in order to have a sufficient percentage of response to compare administrators' responses to clinicians' responses. 40% of the administrators employed in each of the small, medium and large population districts in the state of Montana were contacted by phone for the supplemental sampling. Percentages were calculated on the responses and the administrative responses were collapsed when the responses between the original questionnaire administrators and the phone sample administrators did not differ statistically. Only responses to two questions out of nine could be collapsed across the samples. The three year difference in time between the questionnaire

and phone responses in the administrative groups may have resulted in differences in opinion and knowledge. Other factors such as new information about speech/language therapy services in the schools or special education, in general, and increased accountability caused by decreased funding during this time period may have also influenced the difference in the two administrative responses. The time difference of response between the two administrative samples was clearly a limitation of this study.

Phone sampling vs. a mailed questionnaire sampling may have allowed for differences in responding to occur for the two administrative groups. The investigator could immediately clarify any questions the phone sample administrators had and ensure all questions were answered. Administrators who were not interested could choose not to participate in the study. The investigator could then contact another administrator to ensure an adequate number of subjects participated in the study in a timely manner. During the phone sampling, the responses were immediately obtained from subjects and clarification necessary to understand the questions was easily accomplished. The original questionnaire sampling method allowed viewing the questions and possible responses, comparing/changing answers and reconsidering of responses by the subjects. In addition, the questionnaire format increased objectivity of response, at least minimized investigator bias and increased confidentiality of responses. Overall, however, the phone sampling method seemed much more effective in terms of controlling the amount of responding needed in as short a time as possible.

Another limitation of the present study concerned the amount of information

collected. Sampling both clinicians and administrators with the original questionnaire method provided study of a wide variety of interesting topics from two major viewpoints involved in delivery of speech/language services: the clinicians who provide the actual services and the administrators who make decisions regarding the clinicians and services. Perhaps in recognition of the scope of the presenting problems, i.e. amount of information solicited and number of subjects sampled, the amount of information included in the questionnaire made the study unwieldy. Narrowing the focus of data to be obtained would have resulted in a more concise/precise study. The study could have effectively been narrowed by limiting to the topics which related directly to the thesis questions: caseload descriptors and time allocation.

Statistical problems were caused by the different types of information collected in the study. Statistical analysis of the frequency of response questions was accomplished by the χ^2 square method and percentage of response questions accomplished by the t test for independent means. More careful question formation and consideration of the statistical analysis necessary to analyze those questions would have allowed a uniform statistical analysis to be conducted. With the same answer format for all questions, one statistical analysis test could have been employed consistently for more uniformity and for comparison of responses across questions.

Several problems were found in the design of this study. Changing the sampling method, to ensure an adequate number of subjects responding in a uniform manner, limiting the amount of information obtained, and designing the

types and numbers of questions to allow for consistent application of statistical procedures are suggested as means to minimize the problems encountered.

4.4. Implications

The results of the present study have several practical implications. A need was demonstrated for collecting and sharing of information with OPI personnel, school administrators, legislators, etc.. OPI does not collect descriptive information, other than numbers and ages of children seen (child-count). This study resulted in effective procedures to collect information on description of caseload by disorder and expenditure of clinicians' work time. OPI has no direct knowledge of these topics at the present time. Awareness of this information may enhance the administration and provision of speech/language services in the state.

The clinician time analysis data and some form of caseload description data should be collected as tools to provide ongoing accurate information. Administrators at any level would probably not be interested in collecting additional information concerning these topics. A professional organization, such as MSHA, for example, could direct specific clinicians to collect the time analysis data and have a committee/individual analyze the information on a regular basis.

Following analysis, data could then be distributed to legislators, OPI, MSHA members and administrators. Data collected on such topics as duties and responsibilities of those in the profession in the public schools, continuing education experiences and needs, in-service and training would be useful to MSHA and clinician education institutions to provide appropriate current instruction. This

information about time expenditure and caseload description would also be useful to the clinicians to compare to their own situations. Comparison of a clinician's speech/language therapy program to others in the state would allow for a more objective examination of a specific program. Legislators, OPI and administrators could use the data provided to examine the current service provision system in the state. For example, legislators and OPI might examine the information from the time analysis which demonstrated discrepancies in work activities between the small, medium and large school districts. This additional information might provide a better work load distribution for the various district sizes. If data from all therapists are collapsed as is the method at present, regardless of school district size, then the state and federal government officials must be aware that the results of the data collected do not present the differences found in service provision for the various population size districts. For example, the allocation of time involved in direct therapy and travel by the rural districts was much different than for the more populated districts. Consequently, the expected total number of students per caseload should differ for different sized populations on the present child-count form. Data collected describing caseloads more accurately could also be useful to OPI and legislators. Recommended numbers of students per caseload should be lower when a wide variety of types of disorders are seen for services in a district, as opposed to more limited types of disorder. A clinician that provides service to a greater number of articulation cases can serve more students effectively than a clinician with students whose disorders include many types of communication problems. Caseload description and time utilization information by population size

are therefore important sources of information for administrators and the state legislators to have when making decisions concerning funding of special education services.

Considering current restricted funds at all government levels and the changing expanded roles for the speech/language clinician, distribution of the more accurate descriptive information to decision makers is critical. Decision makers must have accurate and descriptive information to help them understand the importance of speech/language (special education) services and to make them aware of the impact of financial decisions. Legislators and OPI personnel are currently basing funding decisions of speech/language positions and services on information (child-count) that does not address caseload description except as "speech impaired" or clinician time utilization other than direct therapy. As a result of the distribution of the more accurate descriptive information discussed here to legislators, OPI, administrators and MSHA members, one further implication exists. Once the information has been supplied to these individuals and organizations, equalization of funding and services should result.

In response to the lack of centralized documentation of speech/language therapy information described in this study, a consistent means for documenting and recording students' changes in speech/language therapy and other special education services, should be developed. A committee of OPI personnel, administrators, and speech/language clinicians, representing the various factions of the service provision system, would be an effective group to devise consistent documentation procedures. OPI could create and oversee a committee of these

various professionals directed to determine a consistent statewide policy regarding what special education records are kept where and by whom. All personnel involved in serving a child must have access to pertinent information concerning that child. This information would include all related special education information such as; the results of speech and language screening and testing, hearing screening, type, setting and educational significance of special service and progress of the student. Consistent information sharing is necessary for effective treatment when more than one individual is involved with a student. This sharing avoids needless repetition of testing by different special education personnel and counterproductive treatment methods; it allows for information sharing among various professional areas to determine optimum setting and therapy for a child receiving multiple services. The documentation policy formulated by this committee could be monitored by the state during its present audit procedure to ensure statewide follow-through.

In conclusion, several types of information are recommended to be collected on an on-going basis. Time analysis of speech/language clinicians' work time, caseload descriptor information and a centralized policy or procedure for speech and language and other special education data are suggested to be devised, implemented and monitored. Distribution of the information resulting from these would provide more accurate information to make informed decisions. Informed decisions may allow for better expenditure of funds and result in improved provision of special education services. The data collection must be ongoing to provide the most current information on which to base these critical decisions.

4.5. Resulting Topics for Future Research

The following section will discuss future research topics. The development of a labelling system for child-count suggested by this study would require future analysis. A MSHA committee could propose the labelling system and test its usage on specific clinicians. If the system proved effective and efficient, it could be introduced statewide.

Another future research topic would be replication of the results of this study with other clinicians and administrators. In addition to these two groups, other persons make decisions concerning the speech/language profession, such as local school boards, the general taxpaying public and state and federal legislators. These would be useful groups to assess in future, since they too need to be involved and informed.

Another topic for future research is to evaluate whether or not the information collected and presented to decision makers is worthwhile. An analysis of legislators', OPIs' and administrators' decision making, following a period of being provided with more accurate descriptive information could be done to evaluate whether changes in funding or services actually result from having this information available.

To summarize, several topics are suggested for future research by the present study. Analysis of a proposed labelling system for efficiency and effectiveness before statewide usage is suggested. Also, the present study needs to be evaluated for reliability and validity.

4.6. Conclusion

The present study described speech/language clinicians' time allocation and caseloads from the viewpoint of speech/language clinicians and school administrators. Numerous and diverse changes have occurred during the last several years in speech/language therapy services in the public schools. Those not directly involved in speech/language therapy services in the schools such as legislators, apparently have not realized the magnitude of these changes or the effect these changes have on the various population size districts of the state of Montana. Data documenting the need for work time, equipment, training, etc. must be collected on an ongoing basis to provide accurate information on which to base financial decisions. Child-count, the state's present data collection instrument for special education does not obtain this information. Administrators and clinicians need to work together to provide current descriptive information to decision makers who are more removed from the actual service provision. The results of the study demonstrated avenues to collect time utilization information and more descriptive caseload information. Record keeping of student information at the local level also needs to be centralized and standardized. Information regarding accurate labelling of students seen for services and time utilization when provided to those making funding decisions should allow for informed decisions to occur regarding services to handicapped children and increase accountability in distribution of state and federal funds.

Appendix A

Questionnaire

Position: _____ School Superintendent
 _____ Special Education Cooperative Director
 _____ Speech/Language Clinician
 _____ Other (please specify) _____

Employed by: _____

Address: _____

The people attending the Language Conference at the University of Montana held in the summer of 1982 expressed concern about the data collection system employed by speech/language professionals on the state's Special Education Child Count form. They requested that the system be improved to more accurately reflect the make-up of the speech/language clinicians' caseload and work time. This project is designed to recommend modifications in the current speech/language portion of the State Special Education Child Count.

On the present child count form, children seen only by the speech/language clinician are designated as belonging to a single category: speech impaired. There can be confusion in documenting the speech/language clinician's intervention time for children who are listed under another handicapping condition, since children seen by more than one professional for services can only be counted once for funding purposes.

We are also seeking information about how speech/language clinicians allocate time in order to more adequately describe professional responsibilities.

A position paper will be written to reflect opinions of those persons completing this questionnaire. The paper will be used to provide information for consideration in improving the data keeping and continuity in speech/language programs in the State Office of Public Instruction and to the Montana Speech, Language and Hearing Association.

Please utilize data from the 1983-84 school year.

1. Please note approximate percentage (based on 100 percent) of time/year utilized in the following activities:

_____ direct therapy	_____ professional	_____ audiology
_____ screening	_____ consultation	_____ follow-up
_____ evaluation	_____ paper work	_____ travel
_____ meetings	_____ in-service	_____ other (specify)
_____ monitoring (client)	_____ parent counseling/	_____
_____ preparation time	_____ conferences	_____

QUESTIONNAIRE

2. Does the speech/language clinician in your school(s) have time allocated in their schedule for any of the above? Yes No

If yes, please note approximate percentage (based on 100 percent) of scheduled time/year:

<u> </u> direct therapy	<u> </u> professional	<u> </u> audiology
<u> </u> screening	<u> </u> consultation	<u> </u> follow-up
<u> </u> evaluation	<u> </u> paper work	<u> </u> travel
<u> </u> meetings	<u> </u> in-service	<u> </u> other (specify)
<u> </u> monitoring (client)	<u> </u> parent counseling/	<u> </u> _____
<u> </u> preparation time	<u> </u> conferences	<u> </u> _____

3. Please note approximate percentage (based on 100 percent) of the speech/language clinician's caseload by appropriate disorder:

<u> </u> articulation	<u> </u> fluency
<u> </u> language	<u> </u> hearing impaired
<u> </u> language (written)	<u> </u> articulation/language
<u> </u> language learning disabled	<u> </u> other (please specify)
<u> </u> voice	<u> </u> _____

4. Please describe or attach a copy of the objective criteria used for including students in a caseload.

5. For optimum progress, are there children seen in the speech/language clinicians' caseload who could benefit from more therapy time than they presently receive? Yes No
If yes, please note approximate percentage (based on 100 percent) of caseload affected, by appropriate disorder:

<u> </u> articulation	<u> </u> fluency
<u> </u> language	<u> </u> hearing impaired
<u> </u> language (written)	<u> </u> articulation/language
<u> </u> language learning disabled	<u> </u> other (please specify)
<u> </u> voice	<u> </u> _____

6. Are children seen by the speech/language clinician(s) and labeled speech-impaired on the current special education child count form who could be more specifically labeled? Yes No
If yes, please check the labeling system below that you feel would be more appropriate.

 communication disability
 language disorder
 voice/fluency disorder
 articulation disorder

(continued)

QUESTIONNAIRE

6. (continued)

_____ speech disorder	language disorder	content of language
voice	phonology	semantics
articulation	morphology	
fluency	syntax	function of language
		pragmatics

_____ other (please specify) _____

7. Please rank the following severity scales in order of preference.
(1 = most important, etc.)

_____ severity by amount of direct therapy/week (1 hour, 2 hours, etc.)

_____ severity by setting of therapy (monitoring, in regular class, group therapy, private therapy; in resource room in self-contained room, etc.)

_____ severity by number of speech/language problems involved

_____ severity by evaluation of other aspects of the child's life, as well as actual speech/language impairment (social maturity, effect of the impairment on self/import others, motivation, etc.)

_____ severity by criteria established on all tests used in speech/language evaluations (1 year or 1 standard deviation difference between chronological age and developmental age, 2 year or 2 standard deviation difference, 3 year or 3 standard deviation difference)

_____ other (please specify) _____

Please describe or attach the severity scale currently being used.

8. Does your school/district/cooperative have a formal procedure to document changes (case dismissal, change in handicapping condition, move from district, etc.) in speech/language clinician's cases for future reference?
_____ Yes _____ No If yes, please describe or attach information.
9. Does your school/district/cooperative have an objective procedure to document client progress in speech/language therapy? _____ Yes _____ No
If yes, please describe or attach information.
10. Does your school/district/cooperative have an objective procedure to document justification for case dismissal? _____ Yes _____ No
If yes, please describe or attach information.

QUESTIONNAIRE

11. Where is student speech/language information recorded presently in your school(s), other than on State Special Education Child Count forms? Please answer by checking the appropriate boxes:

	Daily Logs	IEPs	Cumulative Records	Health Records	Other (specify)	Not Recorded
Hearing Test Results						
Sp/Language Screening Results						
Sp/Language Test Results						
Type of Therapy						
Setting of Therapy						
Educational Significance						
Progress						
Other (please specify)						

12. What percentage (based on 100 percent) of the speech/language clinician's caseload involves preschool children under the age of six years? Describe or attach criteria used to include a preschool child in the caseload (objective/subjective).

Does your school/district/cooperative impose any restrictions about when preschool children may be seen? Yes No

If yes, please check type of restriction:

- before/after school hours
 during school hours, if all school-aged served
 other (please specify) _____

13. If preschool children are seen by the speech/language clinicians, please note percentage (based on 100 percent) of preschool caseload by appropriate disorder:

- | | |
|-----------------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> articulation | <input type="checkbox"/> fluency |
| <input type="checkbox"/> language | <input type="checkbox"/> hearing impaired |
| <input type="checkbox"/> language (written) | <input type="checkbox"/> articulation/language |
| <input type="checkbox"/> language learning disabled | <input type="checkbox"/> other (please specify) |
| <input type="checkbox"/> voice | _____ |

QUESTIONNAIRE

14. Is the use of a trained aide, supervised by a speech/language clinician, appropriate in your district/area? Yes No
If yes, please answer the following:

Do you utilize an aide? _____
Describe training of aide used _____
What percentage of caseload by disorder would be/is appropriate for the utilization of an aide?

- _____ articulation _____ fluency
_____ language _____ hearing impaired
_____ language (written) _____ articulation/language
_____ language learning disabled _____ other (please specify)
_____ voice _____

15. The number of "speech-impaired" students continues to increase on the State Special Education Child Count. What percentage (based on 100 percent) of this increase do you attribute to:

- _____ misclassification of normal as disordered
_____ better identification
_____ misclassification of maturational performance as disordered
_____ better reporting
_____ maintaining in caseload beyond reasonable amount of time without progress
_____ more children with language disorders included in caseload
_____ other (please specify) _____

16. Are children seen by the speech/language clinician(s) that are also seen by another special service provider in the school? Yes No
If yes, please note approximate percentage (based on 100 percent) of caseload by appropriate disorder:

- _____ articulation _____ fluency
_____ language _____ hearing impaired
_____ language (written) _____ articulation/language combination
_____ language learning disabled _____ other (please specify)
_____ voice _____

17. If children are seen by the speech/language clinician(s) that are also seen by another special service provider in the school, please note the speech/language clinician's role, by letter, by appropriate disorder:

- a. Consult with classroom teacher.
b. Consult with other provider.
c. Provide indirect therapy (goals and supervision).
d. Provide direct therapy in other provider's setting.
e. Provide direct therapy in separate setting, planned with other provider.
f. Provide direct therapy in separate setting, NOT planned with other provider.

(continued)

QUESTIONNAIRE

17. (continued)

<input type="checkbox"/> articulation	<input type="checkbox"/> fluency
<input type="checkbox"/> language	<input type="checkbox"/> hearing impaired
<input type="checkbox"/> language (written)	<input type="checkbox"/> articulation/language
<input type="checkbox"/> language learning disabled	<input type="checkbox"/> other (please specify)
<input type="checkbox"/> voice	_____

18. Please note who currently evaluates the speech/language clinician(s) job performance in your school(s) _____
 Do you think that this person(s) is knowledgeable enough to evaluate the speech/language clinician's role in the school setting? Yes No
 The speech/language clinician's professional competence? Yes No
 Is the speech language clinician advised of evaluation criteria prior to observation? Yes No

19. What other information would you like to see included on the federal/state mandated child-count form?

20. Are there other data you would find useful to your professional accountability? Yes No
 If yes, please describe or attach information.

21. Would you describe the speech/language clinician as:

a teacher with special responsibilities
 a rehabilitation professional providing services in the school
 other (please specify)

Time Analysis Forms

NAME: _____

SCHOOLS SERVED:

MON. _____

TUES. _____

WED. _____

THURS. _____

FRI. _____

DATE: _____

	MON.	TUES.	WED.	THURS.	FRI.	
8:00						A. <u>DIRECT THERAPY</u> 1. Individual 2. Group 3. Classroom 4. Other agent 5. Other
9:00						B. <u>SCREENING</u>
10:00						C. <u>EVALUATION</u>
11:00						D. <u>MEETINGS</u> 1. CST 2. IEP 3. Special Ed. 4. Faculty
12:00						E. <u>CONSULTATION</u> 1. Parent 2. Teacher 3. Other
1:00						F. <u>PAPERWORK</u>
2:00						G. <u>MONITORING</u>
3:00						H. <u>AUDIOLOGICAL</u>
4:00						I. <u>IN-SERVICE</u> 1. Presenting 2. Receiving
						J. <u>TRAVEL</u>
						K. <u>DUTY</u> 1. Playground/Hall 2. Lunchroom
						L. <u>LUNCH/BREAKS</u>
						M. <u>REL. PROFESSIONAL</u>

Please complete one form each week. Each hour is divided into 15 minute segments. Place appropriate letter (and number) in appropriate block. Please record to nearest 15 minute segment.

- A. DIRECT THERAPY: ¹Time spent directly with student in individual therapy
²Time spent directly with students in group therapy
³Time spent with student(s) in classroom
⁴Time spent instructing other therapy agent (trained aide, parent, co-professional)
⁵Other setting/intervention model
- B. SCREENING: Time spent screening speech/language
- C. EVALUATION: Time spent in complete speech/language evaluation procedure with student
- D. MEETINGS: ¹Time spent in Child Study Team meeting
²Time spent in Individualized Education Program meeting
³Time spent in special education personnel meeting
⁴Time spent in faculty meeting
- E. CONSULTATION: ¹Time spent with parent, discussing child
²Time spent with teacher, discussing student
³Time spent with other professionals, discussing student
(Include telephone contact)
- F. PAPERWORK: Time spent writing reports, preparing forms, lesson plans, daily logs
- G. MONITORING: Time spent following speech/language progress of student no longer in therapy
- H. AUDIOLOGICAL FOLLOW-UP: Time spent delivering/providing information on audiological screenings, evaluations and medical treatment
- I. IN-SERVICE: ¹Time spent presenting to any group
²Time spent receiving information (may or may not directly relate to your profession)
- J. TRAVEL: Time spent in the car or walking during working day (not including to and from work)
- K. DUTY: ¹Time spent monitoring playground/halls
²Time spent monitoring lunchroom
- L. LUNCH/BREAKS: Time not spent on A - K above
- M. RELATED PROFESSIONAL ACTIVITIES/CONTINUING EDUCATION: Time spent gathering/receiving information directly related to your profession - not during working hours

Appendix C

Range of Scores from Questionnaire for Administrators & Clinicians

#1	<u>Ad¹</u>	<u>Ad²</u>	<u>Clinicians</u>
direct therapy	6-90	14-95	10-84
screening	0-13	0-20	0-15
evaluation	0-18	0-20	1-18
meetings	0-5	0-10	.3-10
monitoring (client)	0-6	0-25	0-20
preparation time	0-15	0-12	0-14
professional consultation	9-15	0-70	0-10
paper work	0-15	0-30	0-20
in-service	0-15	0-9	0-5
parent counseling/ conferences	0-10	0-20	0-10
audiology follow-up	0-10	0-5	0-5
travel	0-25	0-50	0-32

#2	<u>Ad¹</u>	<u>Ad²</u>	<u>Clinicians</u>
direct therapy	49-81	No data	30-96
screening	1-15		0-10
evaluation	0-13		.008-20
meetings	0-5		0-6
monitoring (client)	0-5		0-3
preparation time	0-10		0-7.5
professional consultation	0-5		0-3
paper work	0-10		0-7.5
in-service	0-5		0-2
parent counseling/ conferences	0-5		0-10
audiology follow-up	0-2		0-1
travel	0-47		0-30

#3	<u>Ad²</u>	<u>Ad¹</u>	<u>Clinicians</u>
articulation	1-100	0-100	0-90
language	0-50	0-100	0-70
language (written)	0-30	0-20	0-30
language learning disabled	0-50	0-40	0-85
voice	0-12	0-12	0-11
fluency	0-30	0-30	0-22
hearing impaired	0-50	0-25	0-15
articulation/ language	0-50	0-100	0-60
#5	<u>Ad¹</u>	<u>Ad²</u>	<u>Clinicians</u>
articulation	None	None	0-64
language			5-80
language (written)			0-30
language learning disabled			0-44
voice			0-1
fluency			0-20
hearing impaired			0-20
articulation/ language			0-80

#12	<u>Ad¹</u>	<u>Clinicians</u>
	0-30	0-50

#13	<u>Ad¹</u>	<u>Clinicians</u>
articulation	0-100	0-66
language	0-27	0-80
language (written)	0	0
language learning disabled	0-40	0-50
voice	0	0-20
fluency	0-20	0-50
hearing impaired	0-95	0-20
articulation/ language	0-50	0-100

#15	<u>Ad¹</u>	<u>Clinicians</u>
misclass. of normal	0-50	0-70
better identification	0-100	0-80
misclass. of maturational	0-40	0-40
better reporting	0-50	0-50
maintaining in caseload	0-25	0-30
more children	0-100	0-100

#16	<u>Ad¹</u>	<u>Ad²</u>	<u>Clinicians</u>
articulation	0-80	0-50	0-100
language	0-25	0-100	0-60
language (written)	0-10	0-55	0-10
language learning disabled	0-100	0-100	0-100
voice	0-10	0-33	0-10
fluency	0-10	0-50	0-10
hearing impaired	0-50	0-50	0-10
articulation/ language	0-80	0-100	0-100

Appendix D

Clinician Time Analysis Results

Fall Quarter, 1984

		Rural	Semi- Populated	Urban	
A1	Direct Therapy: Time spent directly with student in individual therapy	24.80%	24.50%	34.20%	*
A2	Direct Therapy: Time spent directly with student in group therapy	9.30	19.50	15.60	
A3	Direct Therapy: Time spent with student(s) in classroom	.10	2.80	1.10	
A4	Direct Therapy: Time spent instructing other therapy agent (trained aide, parent, co-professional)	--	1.10	.50	
A5	Direct Therapy: Other setting/intervention model	.60	.30	--	
B	Screening: Time spent screening speech/language	.40	.90	2.80	*
C	Evaluation: Time spent in complete speech/language evaluation procedure with student	4.90	1.80	5.40	
D1	Meetings: Time spent in Child Study Team Meeting	1.50	1.20	2.50	
D2	Meetings: Time spend in Individualized Education Program Meeting	2.0	1.00	.70	
D3	Meetings: Time spent in Special Education Personnel Meeting	1.30	.30	.80	
D4	Meetings: Time spent in faculty meeting	.60	.90	.10	
E1	Consultation: Time spent with parent, discussing child	1.80	2.30	3.20	
E2	Consultation: Time spent with teacher, discussing student	2.80	3.50	3.50	
E3	Consultation: Time spent with other professionals, discussing student (include telephone contact)	1.80	1.10	1.10	
F	Paperwork: Time spent writing reports, preparing forms, lesson plans, daily logs	14.80	16.40	13.60	
G	Monitoring: Time spent following speech/language progress of student no longer in therapy	.50	.60	.40	
H	Audiological Follow-up: Time spent delivering/providing information on audiological screenings, evaluations, and medical treatment	.20	3.70	1.00	

		Rural	Semi- Populated	Urban
I1	<u>In-Service: Time spent presenting to any group</u>	.10%	.30%	.30%
I2	<u>In-Service: Time spent receiving information (may or may not directly related to your profession)</u>	1.80	.10	1.30
J	<u>Travel: Time spent in the car or walking during working day (not including to and from work)</u>	19.30	6.70	1.60
K1	<u>Duty: Time spent monitoring playground/halls</u>	.10	.60	.40
K2	<u>Duty: Time spent monitoring lunchroom</u>	--	.10	--
L	<u>Lunch/Breaks: Time not spent on A - K above</u>	9.50	.980	10.10
M	<u>Related Professional Activities/ Continuing Education: Time spent gathering/receiving information directly related to your profession--not during working hours</u>	3.80	2.50	--

*(t statistic for independent means score: ≥ 2.99 , significant difference at the .01 level across seasons.)

Unmarked percentages indicate comparison is nonsignificant across seasonal variables.

Appendix D (continued)
Winter Quarter, 1985

		Rural	Semi- Populated	Urban	
A1	<u>Direct Therapy</u> : Time spent directly with student in individual therapy	38.54%	30.34%	37.09%	*
A2	<u>Direct Therapy</u> : Time spent directly with student in group therapy	7.36	11.37	17.29	
A3	<u>Direct Therapy</u> : Time spent with student(s) in classroom	--	3.51	1.17	
A4	<u>Direct Therapy</u> : Time spent instructing other therapy agent (trained aide, parent, co-professional)	--	.31	.14	
A5	<u>Direct Therapy</u> : Other setting/intervention model	.29	.50	.59	
B	<u>Screening</u> : Time spent screening speech/language	3.13	7.50	1.10	*
C	<u>Evaluation</u> : Time spent in complete speech/language evaluation procedure with student	1.92	2.84	4.92	
D1	<u>Meetings</u> : Time spent in Child Study Team Meeting	.55	.71	2.27	
D2	<u>Meetings</u> : Time spend in Individualized Education Program Meeting	.14	.33	.59	
D3	<u>Meetings</u> : Time spent in Special Education Personnel Meeting	.42	.26	2.07	
D4	<u>Meetings</u> : Time spent in faculty meeting	1.06	.47	.33	
E1	<u>Consultation</u> : Time spent with parent, discussing child	1.09	2.00	1.85	
E2	<u>Consultation</u> : Time spent with teacher, discussing student	2.08	2.12	2.62	
E3	<u>Consultation</u> : Time spent with other professionals, discussing student (include telephone contact)	1.09	.74	1.29	
F	<u>Paperwork</u> : Time spent writing reports, preparing forms, lesson plans, daily logs	14.58	13.10	10.77	
G	<u>Monitoring</u> : Time spent following speech/language progress of student no longer in therapy	1.49	.51	.32	
H	<u>Audiological Follow-up</u> : Time spent delivering/providing information on audiological screenings, evaluations, and medical treatment	--	.37	--	

		Rural	Semi- Populated	Urban
I1	<u>In-Service</u> : Time spent presenting to any group	.16%	.06%	.07%
I2	<u>In-Service</u> : Time spent receiving information (may or may not directly related to your profession)	--	2.72	.11
J	<u>Travel</u> : Time spent in the car or walking during working day (not including to and from work)	16.43	8.01	1.62
K1	<u>Duty</u> : Time spent monitoring playground/halls	.18	.32	.67
K2	<u>Duty</u> : Time spent monitoring lunchroom	--	--	--
L	<u>Lunch/Breaks</u> : Time not spent on A - K above	9.50	8.27	12.25
M	<u>Related Professional Activities/Continuing Education</u> : Time spent gathering/receiving information directly related to your profession--not during working hours	--	2.11	.85

*(t statistic for independent means score: - 2.99, significant difference at the .01 level across seasons.)

Unmarked percentages indicate comparison is nonsignificant across seasonal variables.

Appendix D (continued)
Spring Quarter, 1985

		Rural	Semi- Populated	Urban	
A1	<u>Direct Therapy</u> : Time spent directly with student in individual therapy	20.57%	22.33%	26.29%	*
A2	<u>Direct Therapy</u> : Time spent directly with student in group therapy	2.99	10.34	8.76	
A3	<u>Direct Therapy</u> : Time spent with student(s) in classroom	4.15	3.82	1.25	
A4	<u>Direct Therapy</u> : Time spent instructing other therapy agent (trained aide, parent, co-professional)	.26	.05	--	
A5	<u>Direct Therapy</u> : Other setting/intervention model	2.11	.32	--	
B	<u>Screening</u> : Time spent screening speech/language	6.83	3.43	4.95	*
C	<u>Evaluation</u> : Time spent in complete speech/language evaluation procedure with student	3.15	5.76	9.45	
D1	<u>Meetings</u> : Time spent in Child Study Team Meeting	1.85	5.86	6.98	
D2	<u>Meetings</u> : Time spend in Individualized Education Program Meeting	1.02	.98	3.76	
D3	<u>Meetings</u> : Time spent in Special Education Personnel Meeting	--	.52	1.32	
D4	<u>Meetings</u> : Time spent in faculty meeting	.71	1.42	.45	
E1	<u>Consultation</u> : Time spent with parent, discussing child	.31	1.38	1.57	
E2	<u>Consultation</u> : Time spent with teacher, discussing student	1.82	2.59	2.11	
E3	<u>Consultation</u> : Time spent with other professionals, discussing student (include telephone contact)	2.00	.52	.61	
F	<u>Paperwork</u> : Time spent writing reports, preparing forms, lesson plans, daily logs	18.76	19.73	12.67	
G	<u>Monitoring</u> : Time spent following speech/language progress of student no longer in therapy	1.27	.55	.39	
H	<u>Audiological Follow-up</u> : Time spent delivering/providing information on audiological screenings, evaluations, and medical treatment	.05	.57	1.09	

Appendix D (continued)

Total (Year Average)

		Rural	Semi- Populated	Urban
A1	<u>Direct Therapy</u> : Time spent directly with student in individual therapy	27.97%	28.96%	29.96%
A2	<u>Direct Therapy</u> : Time spent directly with student in group therapy	6.55	12.44	15.18 *
A3	<u>Direct Therapy</u> : Time spent with student(s) in classroom	1.45	2.81	1.74
A4	<u>Direct Therapy</u> : Time spent instructing other therapy agent (trained aide, parent, co-professional)	8.66	.29	.41 *
A5	<u>Direct Therapy</u> : Other setting/intervention model	1.20	.27	.30
B	<u>Screening</u> : Time spent screening speech/language	3.45	4.58	2.32
C	<u>Evaluation</u> : Time spent in complete speech/language evaluation procedure with student	3.32	4.67	5.39
D1	<u>Meetings</u> : Time spent in Child Study Team Meeting	1.30	3.02	3.48
D2	<u>Meetings</u> : Time spend in Individualized Education Program Meeting	.45	.67	1.78
D3	<u>Meetings</u> : Time spent in Special Education Personnel Meeting	.57	.53	1.23
D4	<u>Meetings</u> : Time spent in faculty meeting	.79	.66	.56
E1	<u>Consultation</u> : Time spent with parent, discussing child	1.07	2.19	1.91
E2	<u>Consultation</u> : Time spent with teacher, discussing student	2.23	2.74	2.74
E3	<u>Consultation</u> : Time spent with other professionals, discussing student (include telephone contact)	1.63	.79	1.00
F	<u>Paperwork</u> : Time spent writing reports, preparing forms, lesson plans, daily logs	16.05	15.48	13.28
G	<u>Monitoring</u> : Time spent following speech/language progress of student no longer in therapy	1.09	.49	.44
H	<u>Audiological Follow-up</u> : Time spent delivering/providing information on audiological screenings, evaluations, and medical treatment	.08	.65	1.60

		Rural	Semi- Populated	Urban
I1	<u>In-Service:</u> Time spent presenting to any group	.09%	.12%	.16%
I2	<u>In-Service:</u> Time spent receiving information (may or may not directly related to your profession)	1.30	2.15	.60
J	<u>Travel:</u> Time spent in the car or walking during working day (not including to and from work)	16.32	5.02	3.25
K1	<u>Duty:</u> Time spent monitoring playground/halls	1.76	.49	.52
K2	<u>Duty:</u> Time spent monitoring lunchroom	--	--	.03
L	<u>Lunch/Breaks:</u> Time not spent on A - K above	10.08	8.89	11.03
M	<u>Related Professional Activities/Continuing Education:</u> Time spent gathering/receiving information directly related to your profession--not during working hours	1.27	1.66	1.75

*(t statistic for independent means score: ≥ 3.67 , significant difference at the .01 level.)

Unmarked percentages indicate comparison is nonsignificant across population sizes.

		Rural	Semi- Populated	Urban
I1	In-Service: Time spent presenting to any group	-- %	-- %	.12%
I2	In-Service: Time spent receiving information (may or may not directly related to your profession)	2.10	2.44	1.58
J	Travel: Time spent in the car or walking during working day (not including to and from work)	13.23	5.44	1.43
K1	Duty: Time spent monitoring playground/halls	4.99	.76	.29
K2	Duty: Time spent monitoring lunchroom	--	--	--
L	Lunch/Breaks: Time not spent on A - K above	11.23	8.29	11.05
M	Related Professional Activities/ Continuing Education: Time spent gathering/receiving information directly related to your profession--not during working hours	--	2.88	1.90

*(t statistic for independent means score: -2.99, significant difference at the .01 level across seasons.)

Unmarked percentages indicate comparison is nonsignificant across seasonal variables.

Appendix E

Comparison of Clinician's Actual Time Expenditure to Clinicians Questionnaire

Estimate and Administration and Phone Sample Estimates

	<u>Time Analysis (Clinician)</u>	<u>Questionnaire Results (Clinician)</u>	<u>Questionnaire Results (Collapsed Admin.)</u>
direct therapy	51.97	58.51	60.47
screening	3.45	3.94	5.15
evaluation	4.46	7.93	5.91
meetings	5.02	3.41	2.94
consultation	5.43	4.66	5.70
paperwork	14.94	11.81	8.64
monitoring	.67	1.74	1.64
audiological	.78	.92	1.12
in-service	.12	1.00	1.46
travel	8.20	5.31	7.02
other (duty, breaks rel. professional)	4.96	.27	--

T test for independent means score. (Administrator Group 1 - Administrator Group 2): 36, (Questionnaire Clinicians - Time Analysis Clinicians): 1.18, (Time Analysis Clinicians - Collapsed Administrators): .81, not significantly different at the .01 level. All samples did not differ.

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