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Using analogs as a pedagogical strategy for practice-research integration

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USING ANALOGS AS A PEDAGOGICAL STRATEGY FOR PRACTICE-RESEARCH INTEGRATION

by

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Abstract

USING ANALOGS AS A PEDAGOGICAL STRATEGY

FOR PRACTICE-RESEARCH INTEGRATION

by

Penny Jeffra Schwartz

Advisor: Professor Irwin Epstein

For decades social work educators have sought better ways to promote practice/research integration. This dissertation describes an empirical evaluation of an effort to promote practice/research integration in a Foundations of Social Work Practice course through the use of practice analogs of research concepts.

Three hundred twenty-seven masters social work students participated in this study. Qualitative and quantitative comparisons were made of students who took the course and of those who did not on such dimensions as: research anxiety, confidence, clinical mind-set, general and quantitative evaluation skills, frequency of use of general and quantitative evaluation skills and student perception of research analogs in practice. Qualitative measures asked students to provide examples of practice analogs of research concepts.

Analysis of variance revealed no significant differences between the two student groups with respect to research confidence, research anxiety, clinical mind-set and self-

reported use of quantitative skills. Second year students scored significantly higher on self-reported research skills, general evaluative skills, frequency of use of research skills, frequency of use of general evaluative skills, and frequency of use of quantitative skills. As predicted, students in the Foundations Course scored significantly higher on perception of practice/research analogs. The group that had no exposure to the practice/research analog content, had no research course, but had completed a full year of graduate social work education scored significantly higher on general evaluative skills self-assessment, frequency of use of general evaluative skills and the frequency of use of quantitative skills.

Correlational analysis indicated that perception of practice/research analogs had significant associations for first year students with respect to research confidence, research anxiety, self-assessed quantitative skills as well as for clinical mind-set.

For second year students, statistically significant correlations were found between the analog index and self-assessment of research skills, evaluative skills, quantitative skills, and frequency of use of research skills self-assessment, and frequency of use of evaluative skills.

Qualitative analysis suggested values and beliefs that interfere with the perception of research analogs in social work practice. Implications for social work educators are discussed.

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CHAPTER 1 INTRODUCTION AND LITERATURE REVIEW

The limited success of research in social work education has been discussed in the literature for several decades (Briar, 1981; Fraser, Jenson & Lewis, 1993; Gantt, Pinsky, Rock & Rosenberg, 1990; Lazar, 1991; Lindsey & Kirk, 1992; Rosenthal & Wilson, 1992; Rubin & Rosenblatt, 1979; Rubin & Zimbalist, 1981). Nonetheless, many educators still condemn Master of Social Work (MSW) students for the lack of knowledge about and use of research and cast the blame on MSW programs for these shortcomings (Epstein, 1987; Kirk & Rosenblatt, 1981; Rubin, 1981).

Although there have been some data to suggest that small but real gains in research knowledge have been made, the literature still seems to indicate that the concerns about research knowledge and usage on the part of MSW practitioners and students persist (Lindsey & Kirk, 1992; Olsen, 1990). Roberts (1989) proposes that the gaps between research and practice will continue until researchers become more interested in the "'doing' of social work" (p. 84) and until they are willing to "tailor...methods to the study of this process." (p. 84). More common among research academics is the belief that practice should be more like research (Blythe & Briar, 1985 and Blythe & Tripodi, 1989).

The confusion or lack of clarity about the proper place of research in social work education mirrors the lack of clarity with respect to the place of research in practice. In part these confusions are confounded by the debate over which research paradigm is appropriate to social work, the helping professions, and the social sciences (Brekke, 1987; Duffy, 1987; Epstein, 1988; Field, 1980; Geismar & Wood, 1982; Haworth, 1984; Heineman, 1981, 1982; Imre, 1984; Jayaratne & Stewart, 1991; Karger, 1983; Lindsey & Kirk, 1992; Miller, 1993; Peile, 1988; Pieper, 1982, 1985, 1987, 1988, 1989; Pieper & Pieper, 1993; Porter, 1989; Schuerman, 1981; Steinberg, 1993; Tyson, 1990, 1992, 1993; Wakefield, 1993a, 1993b, 1993c). That is, whether a positivistic or naturalistic research paradigm is most effective in building social work knowledge.

Within the effort to produce scientific knowledge there is an underlying confusion about the meaning of empirical. Traditionally, scientists, including social scientists, have construed empirical to be measurable/countable. However, Heineman (1981, 1982; Pieper, 1982, 1985 & 1989) correctly observes that the concept of empirical, as described and logically developed by philosophers, means knowledge which can be derived from observation. This includes knowledge obtained from the senses--sight, hearing, smell, touch, and taste. Mental processes such as feeling, thinking, etc. are

also empirical to the extent that they are directly or indirectly observable.

Several authors (Peile, 1988; Duffy, 1987) who have framed the debate as between quantitative and qualitative methods have attempted to reconcile these by suggesting that qualitative methods be employed to study certain kinds of issues and quantitative methods to study other kinds of issues as well as a mixed qualitative/quantitative research methodology to study specific aspects of a particular issue within the same study. Despite these attempts, the debate continues. Fischer (1993) framed the quantitative versus qualitative methods as the operationalization and logical outgrowth of the epistemological and knowledge development debates that exist in social work. Furthermore, he concluded that the debates over philosophy, method, or perspective are not the most appropriate foci (Fischer, 1993). Rather, Fischer (1993) maintained that an appropriate focus is achieved when a specific research question is approached differentially. Such an approach entails determining the "best method and design--whether quantitative or qualitative or a combination of both--" to address the research question (Fischer, 1993, p. 27; Epstein, 1988; & Tripodi, 1992). A different aspect of the debate centers around whether to integrate research and practice in both school curriculums and practice.

In this context some authors criticize attempts to integrate practice and research. Horowitz (1991), for example, claims that the interplay between the client and the worker "evades efforts at objective evaluation" (p. 170). This stance appears to negate even some of the newer research paradigms that have appeared in the literature (Heineman, 1981, 1982; Imre, 1984; Pieper, 1982, 1985, & 1989; Ruckdeschel & Farris, 1981; Tyson, 1990, 1992). These paradigms stress the value of qualitative research methods precisely because they claim that the more traditional research methodologies are in conflict with the nature of practice from a heuristic (Heineman, 1981, 1982; Pieper, 1982, 1985, & 1989); "holistic" (Horowitz, 1991, p. 173) and "existential" (Horowitz, 1991, p. 174) point of view. Additionally, proponents of heuristic research methods claim that these research methodologies are the best, if not the only, ways to uncover some of the illusive characteristics of the client-worker relationship.

The epistemological debate about the nature of social work knowledge needs to revolve around the demand for practice theory and practice-relevant empirical data for developing social work knowledge in a scientific manner. Nonetheless, the debate has been falsely couched in terms of "empirical" versus "heuristic" research or in terms of quantitative versus qualitative methods. This literature review

describes the issues surrounding the debate, but makes no attempt to resolve the longstanding, seemingly endless, controversy. Rather than add to the dialectic over methodology, this dissertation contends that one needs to recognize the differences between the research methodologies and realize that both methods are scientific and necessary in the development of knowledge.

Additionally, the literature reflects that several authors have noted the need to develop knowledge that is more directly relevant to practice (Epstein, 1987, 1993; Fraser, Jenson & Lewis, 1993; Roberts, 1998). Along these lines, Kondrat (1992) proposes that the "cognitive status of practical knowledge" (p. 249) needs clarification and understanding in order to bridge the researcher-practitioner gap.

Social work literature has also devoted considerably more attention on to the need to integrate practice and research rather than on how to accomplish this (Galinsky, Turnbull, Meglin, & Wilner, 1993; Gantt, Pinsky, Rock & Rosenberg, 1990; Olsen, 1990; Rubin, 1981; Rubin & Zimbalist, 1981; Siegel, 1983, 1984, & 1985; Siegel & Reamer, 1988; Weinbach, 1981). Some of the arguments for research integration include: (1) the ethical responsibility of professional social workers to "know" what practice methods are effective with their clients, (2) the distinct decrease in available

funds for programs and the resulting increased competition for these funds between programs and professions; and (3) the demand for accountability to potential and actual funding sources (Blythe & Tripodi, 1989; Epstein & Tripodi, 1977, 1978; Tripodi & Epstein, 1978, 1980; Tripodi, Fellin & Epstein, 1978).

Recently, several articles have appeared which document both practice-based educational as well as actual practice efforts to integrate research and practice (Galinsky, Turnbull, Meglin & Wilner, 1993; Orgnero & Rodway, 1991; Polinsky, Fred, & Ganz, 1991; Rubin, Franklin & Selber, 1992; Simon, 1991; Wagner, 1991). No doubt part of the reason for this positive development is that schools of social work are encouraged to integrate research and practice neither because of the demands arising from field agencies, nor because academia is the reservoir of knowledge and knowledge building, but also because each school of social work must meet or exceed the standards for accreditation as delineated by the Council on Social Work Education's Commission on Accreditation (1988). The Council's standards demand that

> Every part of the professional foundation curriculum should therefore help to bring students to an understanding and appreciation of the necessity of a scientific, analytic approach to knowledge building and practice. The content on research should impart scientific methods of building knowledge for practice and of evaluating service delivery in all areas of

> practice. (Handbook of Accreditation Standards and Procedures, 1988, p. 127)

Rather than again attempt to justify the need for practice-research integration, this dissertation will describe and evaluate an educational effort to build a bridge between research and practice.

Theoretical Underpinning

This dissertation project is based on the assumption that rather than debate and/or advocate for a particular model of research, schools of social work should start educating students in research by considering the systematic utilization of information especially as this view builds a bridge between research and practice. In other words, both quantitative and qualitative approaches to information gathering and utilization need to be integrated into every level and stage of social work practice. In short this dissertation proposes that: (1) a more systematic and differential utilization of both qualitative and quantitative information for practice decision making that will improve practice and that (2) knowledge of research concepts and techniques enhance information utilization both directly and indirectly.

The research paradigm underpinning this dissertation is based on an information-driven model of practice that em-

ploys qualitative and quantitative empirically gathered information for decision making in each phase of micro and macro level of practice (Tripodi & Epstein, 1977, 1978; Tripodi & Epstein, 1978, 1980). This paradigm includes a differential approach to research that would enable all social workers to participate in the development of scientific social work knowledge. Additionally, this model seeks to identify and elaborate on research concepts and their analogs in social work practice thus enabling social workers to make their practice more systematic then it may already be. That is, research concepts and techniques, both directly and indirectly, contribute to the effective gathering, analysis, interpretation and practice application of this information. The direct use of research refers to the implementation of generally accepted research methodologies. The indirect use involves the application of research analogues to practice.

This view of research can be applied to any theoretic and/or interventive model of practice that relies on empirical information. Furthermore, this research model is compatible with all forms of research in that it does not tie itself to a single epistemology but recognizes that there are many ways of knowing.

More generally, this dissertation asserts that all practice is predominantly positivistic, that is, things are largely knowable, at least by various means of observation, and that with knowledge (albeit incomplete) one is more likely to achieve desired outcomes.

There are several other underlying assumptions of this project. The first assumption is that the practice of social work requires that workers obtain and process information about the clients, groups, organizations or communities with whom or which they work (Tripodi & Epstein, 1978). Second, since social research methods are tools for gathering systematic information about social phenomena, they can be regarded as methods for processing information (Tripodi & Epstein, 1978). Third, social research methods can be used, or adapted for use, to serve as information processing tools for social work practice (Tripodi & Epstein, 1978). Fourth, social workers will adapt research methodology if the methods are available to them, if the methods correspond to the informational requirements of their practice, if they are compatible with practice methods, and if the methods can be implemented either directly (use of research design methods such as sampling, instrument construction, standardized questionnaires, rating scales, etc.) or indirectly (application of research concepts in practice--i.e., the analogues), and if the costs of the research methods are minimal. The

fifth assumption is that social workers will utilize research methods and results if the findings can be tied directly to practice decisions (Tripodi & Epstein, 1978).

The sixth and final assumption relates to the pedagogical basis for the use of analogs in the teaching of social work. Lewis (1982) discusses the importance of analogy and the power of the imagery it conveys in social work practice. Analogs in practice allow workers some assurance of relevance and confidence that their action is appropriate (Lewis, 1982).

Since this dissertation is about practice-based research and since practitioners are already familiar with the use of analogs in new and/or unfamiliar practice situations, it seems reasonable to apply this technique when teaching research to future practitioners. In other words, the cognitive technique of thinking analogically is/should be a part of a social work student's intellectual repertoire and since the learning method is familiar to them then the students will be applying a known technique in a new context--the practice analogs of research concepts.

The following chapters contain a description and evaluation of an educational innovation that attempts to promote integration of practice and research at the Hunter College

School of Social Work. Specifically, Chapter Two details the evolution and design of a new course, the Foundations of Social Work Practice. The research and practice contents of the course are described in terms of the problem-solving, information-based model of practice. The assumptions of this view of research and practice are delineated.

The third chapter, "Implementation of the Research Content of the Foundations of Social Work Practice Course," is divided into two main sections. The first section describes a faculty training seminar for those who would teach the Foundations of Social Work Practice. The training seminar delineated the assumptions, concepts and pedagogical strategies that would validate instruction of the analog model. The second section of this chapter discusses the actual implementation and teaching of the research material contained in the Foundations course.

Chapter Four focuses on the methodology employed to evaluate students' responses to the research component of the Foundations of Social Work Practice course. This chapter describes the study design, construction of the quantitative and qualitative student evaluation instruments and a discussion of validity and reliability for each of the instruments/scales used in the evaluation process.

The fifth chapter reports the findings of the student evaluations with respect to research anxiety, research confidence, clinical mind-set, research skills self-assessment, general evaluative skills, quantitative skills, frequency of use of research skills self-assessment, of general evaluative skills, and of quantitative skills. Comparisons between the two student groups are made. The qualitative findings are also presented.

Chapter Six presents the summary and conclusions of the study. The assumptions, a brief course description, the faculty training seminar, the evaluation of the research component of the Foundations of Social Work Practice course, and the findings are briefly reiterated. The concluding section of this chapter addresses the pedagogical, practice, and research implications of this study.

CHAPTER 2 THE FOUNDATIONS OF SOCIAL WORK PRACTICE COURSE

With foregoing propositions and assumptions in mind and with the common need in both research and practice for information, a new course was developed at the Hunter College School of Social Work that would bridge the gap between research and practice.

As of the Fall semester, 1991, the Hunter College School of Social Work's research curriculum included a required two-semester course sequence. This sequence emphasized the direct use of qualitative and quantitative research concepts and techniques to inform practice decision-making. In the first semester of the course students learned:

1. to understand the role and function of social work research,
2. to conduct a systematic review and synthesis of the literature,
3. to conceptualize a research problem in social work,
4. to formulate a practice-related research problem and to design a feasible study including the development of a sampling plan, valid and reliable measures for study variables, and an implementation schedule,

5. to understand the ethical dilemmas inherent in conducting social work research and the current protocols for the protection of human subjects;
6. to enhance the sensitivity to political and organizational issues in conducting social work research, and
7. to develop an understanding of issues of how bias enters into social research.

In the second semester of the research sequence students learned:

1. the basic principles and techniques of data collection,
2. to construct data gathering instruments used in social work research,
3. the principles of quantitative and qualitative data analysis,
4. the fundamental concepts and techniques of descriptive and inferential statistics,
5. the use of computers for data analysis,
6. to acquire beginning experience with the use of SPSS-PC and THE ETHNOGRAPH.

Committed to keeping the required courses in the second year, with the same instructor for continuity and the same field placement in which to implement a research project, the Hunter faculty curriculum committe formed a planning

sub-committee whose charge it was to design a first-year Foundation's of Social Work Practice course that would, among other objectives: (1) encourage students to view research as an integral part of social work practice, (2) increase the mindfulness and effectiveness with which students use information in their practice, and (3) better prepare students for the research sequence. This course would, in other words, incorporate a strong research component in the first, or foundation, year of Masters level social work education.

The Foundation Course Content

The Foundation course sub-committee worked to create course objectives. Once these were identified members of the sub-committee suggested readings appropriate to each objective. Each of the objectives has readings that relate to the research component for that objective. As the doctoral student working with the committee, I took responsibility for providing relevant research references.

The Foundations course was divided into ten objectives which were covered in the ten session course. These objectives were that:

1. The students will understand the purpose, knowledge, values, skills and sanction of the profes-

sion. They will be introduced to the person-in-environment perspective;

2. The students will be able to describe a common framework for research and practice in the context of the problem solving process;
3. The students will be able to identify the characteristics of agency auspice and the agency's relationship to clients, client access and service delivery;
4. The students will develop a foundation for understanding agency-based practice and will be able to define "community" in geographic and functional terms as well as from a multicultural perspective;
5. Students will be able to gather information and identify potential sources of relevant information, community resources, and methods of information gathering in working with individuals, families, groups, communities and organizations as well as begin to apply research concepts to practice skills;
6. The students will be able to describe the history of the development of practice methods, a generic framework for practice, and professional social work roles and responsibilities;
7. The students will be able to understand the process of assessing client/community needs within

agency auspice/function and will be able to discuss the worker's role in the assessment process;

8. The students will be able to identify interventions (with individuals, families, groups, communities and organizations) to plan and set goals, to describe differential assessment and delineate the rationale for the choice of practice methods based on need, agency, resource and community. They will be able to discuss engagement, the work phase and termination across practice methods;
9. Students will be able to describe a practice evaluation framework across practice methods (individuals, families, groups, communities, and organizations) for each phase of practice (assessment, planning, goal setting, work termination and follow-up); and
10. Students will be able to identify and describe the ethics and ethical dilemmas in social work practice.

Once the course was designed and approved by both faculty of the Hunter College School of Social Work and the Curriculum Committee for Graduate Studies of Hunter College, the curriculum committe's sub-committee on the Foundations of Social Work Practice disbanded. In its place a new subcommittee comprised of faculty members who would be teaching

the new Foundation course as well as other interested parties formed. The charge of this new Foundations sub-committee was to actually develop the specific content for each session of the Foundations course. I developed the research component for each of the sessions since I had participated in the initial sub-committee.

The research component of the Foundations of Social Work Practice course assumes that all forms of social work practice are driven by the collection, analysis, interpretation and utilization of qualitative and quantitative information. Additionally, the course identified the practice analogs of basic research concepts. The conceptualization of practice and research was also linked to stages of the problem solving process (Siegel, 1983, 1984, 1985; Siegel & Reamer, 1988) as another integrating metaphor. This information-based practice model is consistent with the overall problem solving model of practice taught in the School. Here again, practice and research were shown to be analogous processes.

The Foundations course was to increase the thoughtfulness and effectiveness with which students use information in their practice. The course was also designed to promote a research-based practice model which was consistent with the overall problem solving model of practice taught in the school and to incorporate research concepts and techniques.

Therefore, in the Foundations course, practice was conceptualized in terms of stages of problem-solving, types of information available, sources of information, and types of information gathering/collection techniques available at each stage of practice and program development. Key concepts such as validity, reliability, representativeness, causality, multi-causality, generalizability, Type I and Type II errors, sampling, heuristic, hypothesis, design, triangulation, multiple methods, multiple data sources, independent/dependent variables, outcome, experiment, quasi-experiment, control group and baseline were discussed as they related to research. Next, the practice analogs of these concepts in practice were illustrated/demonstrated.

Both the research and practice uses of these concepts stressed the different types of information, sources of information and information gathering techniques common to both research and practice at each stage of these processes. In other words, the need for information, the sources of information, and the techniques for gathering information serve as the bridge, or unifying force between research and practice precisely because both practice and research are information driven processes.

The research and practice decisions which need to be made at each step of these endeavors are determined by the information gathered at each stage. Examples used in illustrating

the research concepts emphasized the practice analogues and implications of these concepts rather than their direct research applications. Both qualitative and quantitative information was emphasized.

Although the research component of the Foundations course was initially conceived as a separate and distinct module, the planning committee eventually decided to fully integrate the research content with that of the other topics throughout the course. By weaving the research component into every fiber of the Foundations course, the course itself serves as an analog for the full integration of research and research concepts into daily social work practice.

Furthermore, the utilization of all types of information as the common denominator of both research and practice facilitates the avoidance of the historical dichotomies that have been set up between the researcher and the clinician while also bypassing those dichotomies within research between the advocates of quantitative and qualitative methods of research. The integrated model has the pedagogical and professional purpose of helping future social workers to integrate practice and research rather than causing a deeper chasm between practice and research and rather than perpetuating the debates over which research model/method develops "scientific knowledge."

CHAPTER 3 IMPLEMENTATION OF THE RESEARCH CONTENT OF THE FOUNDATIONS OF SOCIAL WORK PRACTICE COURSE

The Faculty Training Seminar

The Foundations of Social Work Practice course content was designed to be uniform for all six sections of the course. However, since none of the faculty members teaching the course were primarily researchers and in order to assure that all the students received the same research component in the Foundations course, the committee agreed that the faculty teaching the new course would benefit from a training seminar on the research component of the Foundations course. This training seminar was also seen as important to the evaluation of the students taking the Foundations course in that the seminar would help to minimize differences in faculty's skill at conveying the research content included in the Foundations course and assure that the faculty members were teaching the same research content.

As the doctoral student on the Foundations of Social Work Practice course committee I took the responsibility for the design of the Faculty Training Seminar on the research component of the Foundations course. The faculty training course was needed in order to assure that the faculty understood the research component specified for this course, the underlying premises of this particular conceptualization of research and to help guarantee that all students received

the same introduction to the integration of practice and research.

The Foundations of Social Work Practice course was designed to teach generic methods of practice--that is those principles, concepts and values that transcend any one particular social work method--and that are common to all fields of practice. The research content was to be delivered in the context of the Foundation course and woven into each session of the course. There was at least one entire session of the Foundation course that was research dedicated--namely, the practice evaluation session. Consequently, the training course designed for the faculty had to cover all the research elements that were going to be woven into the specific sessions as well as focus on the practice evaluation component. Rather than divide the faculty training seminar into ten subjects or sections which would correspond to the sessions of the Foundations course, I decided to teach the research material in two sections since the material seemed to have a natural division. The first section would be the underlying assumptions of the research component, the students' general resistance to research, the importance of research in practice and how this conceptualization of research would help to overcome the barriers to utilization of research methods, and the problem solving process as a model for both research and practice.

The second session of the training seminar would be a discussion of research concepts and the practice analogues of these concepts. This session would provide the faculty with examples of how practitioners can and do use research concepts and methods in practice and how with some modification these methods enable practitioners to conduct and evaluate their practice more systematically. The assumption being that practice which is more systematic helps build practice knowledge. Each session was two hours long.

In designing the training course for the faculty, I needed to recognize the level of knowledge and expertise of the faculty. That is, the faculty who were teaching the course had earned doctorate degrees and therefore, had to have had at least some experience with research despite their professed lack of research experience. However, many of them were not familiar with some of the evolving research paradigms which included qualitative as well as quantitative research methodologies. Additionally, many of these faculty did not view themselves as experts in research and did not feel qualified by their own research experience to teach this content. Therefore, any course I designed had to recognize both the faculty strengths and trepidations regarding their attitudes toward the teaching of this component of the Foundations course. In other words, the content of the training course had to acknowledge their skills as

both advanced practitioners and educators as well as their real or perceived gaps as researchers and/or research educators.

The basic pedagogical principle employed throughout the design of the faculty training course was to recognize the expertise of the faculty as both educators and practitioners and relate this to parallel or analogous concepts in research. In other words, the same techniques that I envisioned the faculty using with the students would be helpful when teaching the faculty. The content of the faculty course would be in somewhat greater detail than with the students owing to the advanced experience and knowledge of the faculty but the teaching techniques would be similar.

The faculty course started with a discussion about the assumptions of the training course. A detailed explication of these assumptions are listed in Appendix 2 — Program Materials. The reason for starting with the assumptions of the training course was to assure that all the faculty members had the same understanding of the basis for the conceptualization of practice based research--that is, an information driven model of practice that employs qualitative and quantitative empirically gathered information for decision making in each phase of micro and macro level of practice. This model includes a differential approach to

research that would enable all social workers to participate in the development of scientific social work knowledge and would make their practice more systematic than it might already be. The assumptions of the training seminar served as an introduction and a "hook" into the material which would be discussed in the seminar.

Some of the assumptions of the training course included ideas like:

1. The conduct of social work practice requires that the practitioners obtain and process information about the clients, groups, organizations, or communities with whom they work (Tripodi & Epstein, 1978, p. 65).
2. Social research methods are tools for gathering systematic information about social phenomena and therefore can be regarded as methods for processing information (Tripodi & Epstein, 1978, p. 65).
3. Social work methods can be used or adapted to serve as information processing tools for social work practice (Tripodi & Epstein, 1978, p. 65).

This first session also included some discussion about the conditions under which social workers would adapt research methodology. Namely, social workers would utilize research methods if:

1. the research methods were available to them;

2. the methods corresponded to the informational requirements of the workers;
3. the methods were compatible with methods of practice;
4. the methods could be implemented either directly or indirectly;
5. the costs were minimal; etc.

Based on the assumptions that utilization of research methods depended on the informational requirements of social workers and that these methods be compatible with methods of practice, I elected to stress the idea that both research and practice could be conceptualized as parallel processes that were expressions of the problem solving process (Siegel, 1984). The reason for choosing this conceptualization of practice and research is that the faculty were already familiar with and in agreement on the use of the problem solving process as a model for social work practice. Therefore, placing research within this context would not be asking the faculty to accommodate a new practice model that might or might not be consistent with the philosophy of the school. Rather, I was asking the faculty to broaden this model to accommodate the additional content on research. The familiarity of this model would, hopefully, decrease the potential rejection of research methods as being alien or inconsistent with beliefs already held by the faculty. From

a pedagogical perspective, I was helping to move the faculty from the known--i.e., the problem solving process--to the related unknown--i.e., research methods as an expression of the problem solving process.

Once the faculty subscribed to these and the other enumerated assumptions in the Training Seminar Outline (Appendix 2 Program Materials), I felt it was important to address the reasons why students were generally "resistant" to research and research content in social work courses. By discussing student resistance to social work research content, I was indirectly addressing these issues for the faculty as well. Part of this strategy included reaching for the common ground between myself and the faculty. This common ground included our years of experience as practitioners, our pursuit/completion of doctoral studies, our teaching experiences and our belief in agency based practice. Additionally, I reached for faculty experience with evaluation of their own practice and/or their own teaching. The notion of faculty utilizing information derived from student's observations and patterns of observations about their teaching was framed as a systematic use of information and a form of evaluative research in which student responses were used to change or adapt the teaching of courses and/or the design of field experiences or other assignments. What I was attempting to reach for here was the notion of the faculty members

as "practice-researchers" whether their practice was of an educational or other clinical nature.

The discussion then moved to some of reasons why students resisted research and research content as delineated by Epstein (1987). Humor was an effective technique and the faculty members drew the parallel between themselves and the students with respect to "resistance to research." Techniques for working through this resistance were also discussed and the parallels to those techniques used in practice when working with a "resistant client" were also pointed out to faculty.

The next stage included the clarification of the concept of "empirical." This was necessary in order to break from the commonly used equivocation of empirical and numerical. It should be pointed out that the faculty eagerly grasped "empirical" as being subject to verification through observable events--events that can be observed by the senses and other mental processes (eg. feelings). This return to the original meaning of "empirical" was necessary in order to encompass all observational methods--that is, the qualitative as well as the quantitative ones. Numerous examples of qualitative and quantitative observations were provided as examples. The faculty members provided additional examples from their own practice and pedagogical experiences.

I next delineated the eight stages of the problem solving process and the parallels in both practice and research for the faculty training seminar. By describing the problem solving process and the stages of this process in both practice and research, the research process was demystified and more accessible to the faculty members.

Although I especially encouraged faculty to discuss and provide examples of the model in action as well as to refute, discuss and debate any point raised in the seminar, I want to point out that the faculty members were actively engaged in the seminar. They raised issues, discussed and debated points with each other as well as with me. What was happening during this process was that each of the faculty members was considering the presented material and fitting it into their own understanding and beliefs about practice. Given the presumption that being a faculty member represents a commitment to academia and an intellectual lifestyle, I believed that starting with the material I described would also help the faculty members to become engaged in discussion and thereby begin to "own" the material being presented. The ownership of this conceptualization of practice and research was necessary, in my opinion, for faculty to be able to teach this material with any conviction to students. By the end of the first session, faculty members were animated; the discussions were stimulating and invigorating.

Furthermore, rather than waiting until the fall of the year for the second session of the seminar, the faculty requested that the second and final session be held before the summer vacation. From my point of view, this is what I hoped to achieve in this first session.

Also, at the end of the first session, the faculty requested copies of the notes from which I worked. They indicated that this would help them to prepare their lectures for their own teaching of the material. We agreed that I would have copies of my notes made and distributed to each of the faculty members teaching the course. Additionally, I would develop a glossary of research terminology that would accompany the notes and that the material would be delivered to the faculty in advance of our next meeting.

The second session of the faculty training seminar consisted of a short review of the material covered during the first session. This provided the faculty with an opportunity to raise issues that might have occurred to them since our last meeting and since receiving the copies of my training seminar notes. This discussion also helped to provide continuity from the first session to this one as well as helping seminar members to recapture the spirit and vitality that had developed during the previous session.

The next step was to introduce the notion of practice analogues to research concepts. In order to do this, I believed it was important to provide pedagogical basis for the use of analogy in teaching. Namely, analogs provide a powerful imagery to social workers and social work students in practice and assure or promote relevance and confidence that their action is appropriate (Lewis, 1982). Analogs are used by practitioners to move from a familiar situation to a somewhat related but unfamiliar situation. Since this learning technique is already within the repertoire of the social work student, it seemed reasonable to utilize this technique in assisting social workers to incorporate research concepts and methods in their practice. In other words, the social work students would be using a know technique in a new context--the practice analogs of research concepts.

Once the faculty grasped the rationale for this approach with their students, the next phase was to describe and define some of the research concepts and provide examples of the practice analogs of these concepts. I started this process by asking the faculty to consider the research term "baseline." The next step was to ask what this concept would look like in a practice situation. For example, an intake interview might describe a client's current bio-psychosocial functioning. The worker assigned to the client

might write a three-month evaluation of the client's functioning. The intake would form the baseline against which the three month evaluation of the functional level of the client could be compared. Should another evaluation be conducted at the six month mark, the practitioner might be developing a time series (i.e. t_1, intake, t_2, three month evaluation, and t_3, six month evaluation) in order to compare the effectiveness of an intervention or a series of interventions.

In the training seminar the glossary of research terms provided faculty with the research concepts. The practice analogs of these concepts were developed by each faculty member's experience as a social work practitioner. I served as a resource person to and facilitator of this process and discussion. I felt that it was important for as much of this material to come from the faculty members themselves in order to reinforce the technique of using practice analogs to describe research concepts. Other research concepts discussed included: causality, control and comparison groups, dependent and independent variables, hypothesis, reliability, validity, multiple data sources, multi-causality, intervening variable, sampling, generalizability, etc. Imbedded in the discussion of each concept was the type and source of information as well as the techniques necessary to gather the information to support the practice analog of the

research concept. In this way, information formed the bridge between the practice analog and the research concept.

At the completion of this session faculty appeared to have developed an increased awareness of how their own practice (either as social workers or social work educators) could be conceptualized in a more systematic manner using information as the common ground and driving force of both practice and research. From the second session the faculty gained an experiential understanding of the use of practice analogs of research concepts in teaching students to begin to evaluate their practice.

At the end of the training seminar, I offered to remain available to faculty members, individually or as a group, throughout the semester as a consultant with respect to the research content in the Foundation course.

All of the faculty members attended at least one of the sessions. Four faculty members attended both sessions, and all faculty members received a copy of my teaching outline "Training Course for Faculty." This outline was quite extensive (see Appendix 2) and included a glossary of research terminology.

Teaching the Research Component of the Foundations of Social Work Practice Course

The Foundations of Social Work Practice course is a required course that was taught during the first ten weeks of the first semester of the 1992-93 school year to all incoming social work students. The class was divided into six sections with all practice methods being represented in each section. The research component of this course was woven into each session as well as having one complete session dedicated to practice evaluation.

During the last half of the ten-week foundation course, one of the professors teaching the new course requested that I conduct the session on practice evaluation for his class. Although this faculty member would and could teach the material if I were unavailable, he felt that the students might benefit more from my presentation than his. I agreed to teach the session and felt that this class's course evaluations might form a comparison group with the other five sections of the Foundation course. After hearing of my willingness to teach his section, three of the remaining five Foundation course instructors asked me to teach this section to their students as well. These three classes met during the same time, so the faculty agreed to have the classes combined. Consequently, despite the orginial project design, I taught the practice evaluation session to four of the six sections of students. The remaining two

faculty members intended to handle this material themselves as they had taught the research sequence and were comfortable with the assumptions about practice-research integration. All the faculty members agreed that I could come to the last session of each class and request that the students complete a self-administered evaluation form.

The four sections were taught in the same manner. I tried to create an open feeling in which the students were free to discuss, debate, refute, argue, etc. the material I presented. The material consisted of the same material, in less detail, as was presented to the faculty members in their training session.

A distinguishing element, however, occurred at the beginning of the session. For each class, the professors provided an introduction which described me as a doctoral student of the Hunter College School of Social Work and as an adjunct faculty member of the School and as a staff member of the Mount Sinai Medical Center Department of Social Work Services. Although this was all true, the introduction sounded like it might be overwhelming to first year students starting their careers in social work. Furthermore it seemed to emphasize my academic and research experience while not stressing my strong commitment to and many years of clinical experience. Therefore, after thanking the faculty member

for the generous introduction, I described my work at Mount Sinai and the reasons why I decided to pursue a doctoral education. This introduction, replete with my clinical experiences, also formed the bridge between my professional and ethical obligation to serve clients and to know whether what I was doing was in fact advancing the progress of my clients. What I emphasized to these student was that, rather than being a researcher, I was a clinician who engaged in research in order to better serve my clients.

The first hour of the class reviewed the assumptions about the role of information in, the place and importance of research to practice, and a quick review of the problem solving process model's application to research and practice. In other words, the students received a compressed version of the first session of the faculty training seminar including a frank discussion about some of their misgivings about or hesitancy to engage in research. As with the faculty, I used a lot of humor as well as using the students own comments and examples to illustrate steps in the research process that paralleled their descriptions of a clinical situation.

The second half of the class entailed a discussion of some of the research concepts and their practice analogues. With the students, however, I started from the clinical situation

and then provided the research concept which compared with that scenario. The reason for starting with a clinical situation was that the students probably had more clinical experience than research experience. I felt it would be better to start from material that was familiar and work toward the related but unfamiliar. For example, I asked the students if they had ever been surprised by what a client, with whom they had been working, revealed to them? Several students acknowledged this phenomenon. I asked one of the students, while maintaining client confidentiality, to relate the experience with the rest of the class. After doing this, I thanked the student and asked why the revelation was a surprise. The student then proceeded to state that the client did not behave in a way the student had expected. I asked if the student knew what a hypothesis was? The student responded that it was a statement used to predict the conditions under which an event would occur. The student added that it like a theory only "smaller" and that it often took the form of an "if ... then" statement. After praising the student, I asked the rest of the class if they had anything they wanted to add to this student's definition. Several students offered refinements of the definition. Once the refinements were incorporated, I pointed out that the first student had a hypothesis about how the client would behave. When the client revealed something that surprised the student, the student had to

acknowledge that what was initially believed about the client was, in fact, a hypothesis that had been refuted by the client's revelation. I used the opportunity to point out that social workers make hypotheses every day about clients. Every time a worker plans an intervention, for example, the worker is stating that if a certain intervention is made it will result in a change in the client's circumstances. Otherwise, what might be the point of intervening at all?

In addition to using the student's own practice examples, I also relied on some of my own to demonstrate certain concepts that the students might not yet have had an opportunity to experience given that they were only a couple of weeks into their placement. Relating some of my own clinical experiences, especially those from when I was a new worker helped the students to relate my experiences to their own. This technique was particularly helpful in that it enabled the students to see that I was cued in to where they were in terms of their clinical experience and to demonstrate that a new worker can engage in practice based research efforts.

I felt it was essential to lend a vision in which the role of the research practitioner started at the very beginning of practice experiences and that one need not be a "seasoned

practitioner" before engaging in the research process nor that one had to be a full time researcher in order to do research. The message I wanted to convey was that the desire to know if one's practice efforts were effective combined with the desire to help one's clients were necessary ingredients to inspire using research methods in practice.

Both class sessions (one class and the combined class) were marked by the majority of the students participating in animated discussions. Many of the students expressed the feeling of looking forward to taking the research sequence at the school. In other words, research concepts and their practice analogs were not only apparently demystified but viewed as material that was exciting, useful and relevant to social work practice.

CHAPTER 4 METHODOLOGY

Course Evaluation

During the last session of the Foundations course, the students were told that I was interested in studying their thoughts and feelings about research and clinical social work practice. The students were told that their participation was entirely voluntary and that the completion of the questionnaire was anonymous. This project and the evaluation procedures received the approval of the Hunter College Institution Review Board.

The second year students enrolled in their first semester of the research sequence were also given the same questionnaire, information about the study and instructions. These students received the questionnaire during the first hour of their second class of research. This time was chosen in order to assure that the students had not received any research content (since it was the beginning of the semester). Although the first week would have been preferable, the confusion surrounding that first week of classes might have distracted the students sufficiently to affect the results of the study.

By evaluating the second year class prior to their having had much exposure to research and the first year class after

completion of the Foundations of Social Work Practice, I was able to create a comparison group which would allow for some inferences about the impact of the Foundations of Social Work Practice course on student attitudes toward research. Specifically, the presence of a comparison group would enable me to study the differences between the two groups with respect to their attitudes toward research, clinical social work, research skills, frequency of research task performance, and the applicability of research concepts to social work practice.

The participation of the second year students in this study was also entirely voluntary and anonymous. The students were informed of this at the time I requested their participation--i.e. the first hour of their second meeting of their research course.

For both groups of students, I discussed the project and requested their participation. Additionally, I remained in the room during the completion of the questionnaires. The students were asked to return their questionnaires to the front of room. Students who did not wish to complete the questionnaire could return the questionnaire at the end of the allotted time so that their anonymity would be protected. All questionnaires, completed and uncompleted, were counted while being handed to the students, and at the end

of the evaluation period. I did this to assure that extra questionnaires would not be floating around the school as this phenomena might have contaminated the findings by student discussion of the study and their responses to the items on the questionnaire.

Sample Population

Before any determination about the impact of the Foundations of Social Work Practice course could be made, data needed to be collected about the characteristics of each group of social work students. These data were necessary in order to assure that both groups of students were similar with respect to antecedent variables such as age, gender, ethnicity, undergraduate major, undergraduate grade point average, major social work method, area of concentration, years of paid social work experience, and research experience (both with respect to prior course work and conduct of research). The lack of significant differences between each of the two student groups would allow for the two groups to be compared as to their feelings about research, their clinical attitudes, their research skills, their frequency of research task performance, and their beliefs about the applicability of research concepts to social work practice with clients, groups, and/or organizations.

Three-hundred-twenty-seven (327) students participated in this study. One hundred thirty-four (134, 41%) were in the first year class and took the Foundations course. The remaining 193, (59%), were beginning students in their second year research classes.

There were no statistically significant differences between the two groups of students with respect to their practice concentration, undergraduate grade point average, the number of undergraduate research courses, graduate research courses, participation in the conduct of research, their gender, and their ethnic background.

Statistically significant differences existed between the first and second year classes with respect to practice method, previous paid social work experience, and age. These factors were controlled for after a preliminary analysis of the data.

Construction of the Student Evaluation Instruments

In order to measure students' feelings about research, their clinical attitudes, their research skills, their frequency of research task performance, and their beliefs about the applicability of research concepts to social work practice with clients, groups, and/or organizations several instru-

ments were adapted and/or constructed to measure each of these items.

Students' feelings about research were measured according to their confidence and their anxiety about taking the upcoming research sequence at the School. The instrument used was designed by Wilson and Rosenthal (1992). There were fourteen feeling state items to which the students were asked to respond. The students were asked to rate, on a scale from 1 (not at all) to 9 (to the greatest extent possible), the degree to which they experienced these feelings as they anticipated taking the research sequence courses (Wilson & Rosenthal, 1992). Five of these feelings (secure, upset, inadequate, frightened, and confident) were used to evaluate the students' feelings of confidence. Eight of these feelings (jittery, comfortable, worried, nervous, calm, at ease, relaxed and tense) were used to rate the students' feelings of anxiety.

With respect to confidence, the response weights for the negative feelings of upset, inadequate and frightened were reversed and then the scores were added for all five items for each student (Rosenthal & Wilson, 1992). In other words the lowest score, 5, would indicate the least amount of confidence while the highest score of 45 would indicate the greatest amount of confidence about taking the research

sequence courses. On this scale, a score of 25 would be neutral (Rosenthal & Wilson, 1992). A test of internal consistency reliability for this scale yielded a Cronbach alpha coefficient of .82 for both groups in this study as compared to the Rosenthal and Wilson study which yielded an alpha of .80 (1992). The feelings described by these items reflected face level validity with respect to personal confidence on the part of the students as they considered studying research. It is possible that students could have feigned their level of confidence, however, it would not have served any purpose to do so.

The degree to which the students experienced anxiety when anticipating taking the research course sequence was determined "by reversing the ratings on positive emotions (comfortable, calm, at ease, and relaxed), summing the ratings for the eight items and then converting back to a 1 - 9 scale by dividing by 8 (the number of items)" (Wilson & Rosenthal, 1992, p. 78). A score of "1" reflected the least degree of anxiety, whereas a score of "9" the greatest degree of anxiety. The Cronbach alpha was .91 for this study revealing a high level internal consistency reliability. The Wilson and Rosenthal (1992) study yielded an alpha of .92. The scale had face-content validity.

The students' clinical attitudes instrument was the same one developed by Penka and Kirk (1991) who noted that in addition to training in evaluation methods and the possession of evaluation skills, clinical evaluation required that the practitioner have attitudes and beliefs, a "mind-set," that guide him/her. In other words, there was a clinical cognitive structure that supported the evaluation endeavor (Penka & Kirk, 1991). Penka and Kirk (1991) developed a five-point Likert scale rating of a series of statements to which students responded. These items became the "Clinical Mind-Set Index." This index was used in this study to assess the students' clinical attitudes. The following statements comprised the 11 items on the clinical mind-set index:

1. Therapeutic change for clients often occurs too long after contact with the clinician to measure its occurrence.
2. The client benefits by talking to a clinician, even if behavioral change is not apparent.
3. The important results of social work intervention are often not known for many years.
4. The quality of the therapeutic relationship is the major factor that determines clinical effectiveness.
5. A clinician's intuitive sense of a client's progress is less valuable than an objective measure.

6. The true quality of a therapeutic relationship cannot be measured.
7. Time and experience are more important than education and technique in becoming an effective clinician.
8. Social work should be more art than science.
9. Clinical research cannot capture the essential elements of the therapeutic relationship.
10. Therapeutic processes do not lend themselves to quantification.
11. Clinical research can generally document the important aspects of therapeutic change. (Penka & Kirk, 1991, p. 517).

The students were asked to rate the extent to which they either agreed or disagreed with the preceding statements. With the exception of statements #5 and #11, a score of "5" indicated that the student strongly agreed with the statement, and a score of "1" indicated that the student strongly disagreed. The coding was reversed for statements "5" and "11" so that "5" meant strongly disagreed and "1" meant strongly agreed. The higher a student's total score the greater the clinical mind-set of the student. Penka and Kirk (1991) reported an alpha of .71, a mean of 33.4 and a standard deviation of 5.54. Using all of the items listed above, the internal reliability of student responses in this

study as measured by the Cronbach's alpha was .58 (M = 32.83, SD = 4.48). An examination of the corrected item-total correlation, revealed that the alpha's for the clinicial mind-set scale would increase if the following items were omitted from the scale:

1. The client benefits by talking to a clinician, even if behavioral change is not apparent.
2. The quality of the therapeutic relationship is the major factor that determines clinical effectiveness.
3. A clinician's intuitive sense of a client's progress is less valuable than an objective measure.

In an effort to approach the Penka and Kirk (1991) alpha of .71, it was decided to use the abbreviated clinical mind-set scale. On the abbreviated clinical mind-set scale the alpha was .66, the mean was 21.6 and the standard deviation was 4.13. Although this alpha is still lower than the Penka and Kirk alpha it was felt that the differences in the populations of the studies were sufficient to warrent the use of the scale even in its ammended form. The Penka and Kirk (1991) study was conducted using a sample of 296 direct practice NASW members having an average of nine years of practice experience. The sample population in this study were either first or second year master's level students. Since the two groups differed with respect to clinical

experience at the Master's level and since this study population had not yet received their Master's degrees, it would not be unreasonable to assume that their "clinical mind-set" was not as firmly established as that of the experienced practitioners in the Penka and Kirk study. Therefore, the reliability of the instrument might reasonably show more internal inconsistancy with this study's population than it did with the population in the Penka and Kirk study.

The next instrument adapted from Penka and Kirk (1991) asked the students to rate the extent to which they felt skilled in using specific procedures that were components clinical evaluation. (The adaptation included minor word changes to reflect the clinical practice of all the Hunter students in which an agency, program, organization, staff or community could be the client.) The students evaluated themselves on a three-point scale (1 = unskilled, 2 = neither skilled nor unskilled and 3 = very skilled) with respect to the following evaluative components:

1. Ability to specify intervention goals.
2. Ability to operationalze target problems.
3. Ability to involve client/program staff in setting goals.
4. Ability to describe goals in measurable terms.
5. Ability to write intervention goals in notes.
6. Ability to operationalize intervention components.

7. Ability to describe intervention techniques.
8. Ability to monitor client/program change over time.
9. Ability to have client/agency staff self-monitor progress.
10. Ability to use rating form to measure change.
11. Ability to use standardized questionnaires.
12. Ability to use graphs to measure change.
13. Ability to use statistical techniques to evaluate change.

Student responses to the thirteen statements were totaled. On this instrument the highest score, 39, reflected very skilled with respect to the use of evaluative components, and the lowest score, 13, reflected very unskilled with respect to the use of evaluative components. The Cronbach alpha for the entire scale was .87, the mean 28.59 and a standard deviation of 5.82.

Penka and Kirk (1991) divided these items into two sub-scales--a general evaluative skills scale and a quantitative evaluative skills scale. On the general evaluative skills index, they reported an alpha of .83, a mean of 21.6 (SD = 3.62) and on the quantitative skills index an alpha of .85 and a mean of 5.89 (SD = 2.17)(Penka & Kirk, 1991). When subdivided similarly, the internal reliability alpha was

.87, the mean 21.59 (SD = 4.44) for the general evaluative skills index and an alpha of .82 and mean of 7.04 (SD = 2.39) on the quantitative skills index.

The students were then asked to evaluate, on a 3-point scale, the frequency with which they performed the above thirteen tasks since having the skill was a necessary but not sufficient condition to engaging in research related activities and therefore would not reveal how often the students engaged in these activities (Penka & Kirk, 1991). Each student's total score was added to obtain a total score.

As with the research skill proficiency assessment, a high score revealed very frequent use of research task, and a low score revealed very infrequent use of research tasks (highest score, 39, = very frequent use; lowest score, 13, = very infrequent use). The items were divided into two subscales--a frequency of use of general evaluative skills scale and a frequency of use quantitative evaluative skills scale. For the frequency of use of evaluative skill index the Cronbach alpha was .89, the mean was 20.71 and the standard deviation was 4.96. For the frequency of use of the quantitative skill index, the Cronbach alpha was .90, the mean was 5.20, and the standard deviation was 1.98.

A final original instrument was constructed to see the extent which students believed that research concepts could be applied to social work practice. The research concepts evaluated were some of those included in the Faculty Training Seminar. Each item first asked the students to state the extent to which they agreed or disagreed that the particular research concept could be applied to social work practice with clients, groups, and/or organizations and then to provide an example if they agreed or state why not if they disagreed. The following concepts were studied:

1. Baseline
2. Causality
3. Variable
4. Outcome
5. Multiple-data sources
6. Representativeness
7. Generalizability
8. Hypothesis
9. Reliability
10. Validity

Each item first asked the students to indicate the extent to which they agreed or disagreed that the particular research concept could be applied to social work practice with clients, groups, and/or organizations. If they agreed, they were asked to provide an example of its use in practice. If

they disagreed, they were asked to say why. The extent of agreement was measured on a five-point Likert scale ranging from strongly disagreed, 1, to strongly agreed, 5. I believed that these research concepts had the most apparent practice applicability, and consequently, the faculty would most likely have taught these in the Foundations of Social Work Practice. Although the overall content of the Foundations course was standardized, each faculty member had ample latitude to choose the specific examples s/he used to illustrate the core concepts of the course. Therefore, I chose those concepts that I believed would have broadest applicability to practice situations.

The final, eleventh, summary item asked students to rate the extent of their agreement, on the same five-point Likert scale, with the general statement:

> Research concepts can be applied to social work practice with clients, groups and/or organizations.

This item also requested that the students state the reason for either their agreement or disagreement with the statement.

After some preliminary correlational procedures, eight of the 11 items were grouped into a research concepts analog instrument. A test for internal consistency yielded a Cronbach alpha of .88, a mean of 27.92 (SD = 3.99) for the

research concepts of variable, outcome, representativeness, generalizability, hypothesis, reliability, validity, and the general proposition that research concepts can be applied to social work practice with clients, groups and/or organizations. These eight items became the Analog Scale.

CHAPTER 5 FINDINGS

Qualitative and quantitative comparisons were made of the two student groups--those who took the Foundations course (First Year) and those who did not (Second Year). As described above, quantitative measures included existing indexes measuring research confidence (Rosenthal & Wilson, 1992), research anxiety (Wilson & Rosenthal, 1992), the shortened version of Penka and Kirk's (1991) clinical mindset, as well as their measures of research skills self-assessment, general evaluative skills, and quantitative skills (Penka & Kirk, 1991). Additionally, three adaptations of Penka and Kirk's (1991) scales were developed to measure the **frequency of use** of research skills, of general evaluative skills, of quantitative skills. Tables summarizing a comparison of the means of the first and second year classes for each of the 13-items on both the ability to use research skills self-assessment index and the frequency of use of research skills index appear in Appendix 1, Tables A & B. Finally, an original Analog index was created which measured student perception of the applicability of research concepts to practice. The qualitative measures asked students to provide examples of practice analogs of research concepts or to explain why the concept could not be applied to practice.

Quantitative Analysis

Since social work students at Hunter are not taught single-subject design methodology in their practice courses and neither student group had taken Master's level social work research courses at the time they were tested, the authors hypothesized that no significant differences would be found between the two groups of students with respect to research confidence, research anxiety, clinical mind-set, research skills self-assessments and frequency of use measures.

Analysis of variance supported four out of nine of these hypotheses. The results are presented in Table 1 (see following page). No significant differences were found between the two student groups with respect to research confidence, research anxiety, clinical mind-set and self-reported use of quantitative skills. Contrary to expectations however, second year students scored significantly higher on self-reported research skills (t = 2.23, p = .01), general evaluative skills (t = 3.14, p = .00), frequency of use of research skills (t = 2.23, p = .01), frequency of use of general evaluative skills (t = 1.85, p = .03), and frequency of use of quantitative skills (t = 2.55, p = .01). These findings suggest that first-year course and fieldwork experiences may have provided second year students with opportunities to learn and use practice-related research skills. An alternative explanation is that the greater

TABLE 1
SUMMARY OF T-TESTS OF 10 INDEXES BY YEAR

Index	Mean	Std Dev	t Value	p Level[1]
Research Confidence Index				
First Year (n=130)	28.85	8.65	.03	.49
Second Year (n=190)	28.82	8.64		
Research Anxiety Index				
First Year (n=128)	5.05	1.70	.53	.30
Second Year (n=189)	4.94	1.75		
Clinical Mind-Set Index (abreviated)				
First Year (n=126)	21.72	4.29	.54	.29
Second Year (n=182)	21.46	4.03		
Research Skills Self-Assessment (Includes all 13 Items)				
First Year (n= 109)	27.63	5.53	-2.23	*.01
Second Year (n=165)	29.22	5.93		
General Evaluative Skill Index (Includes 9 Evaluative Skills)				
First Year (n=112)	20.58	4.32	-3.14	*.00
Second Year (n=169)	22.25	4.40		
Quantitative Skill Index (Includes 4 Quantitative Skills)				
First Year (n=127)	7.09	2.29	.36	.36
Second Year (n=186)	6.99	2.47		
Frequency of Use of Research Skills Self-Assessment Index (includes 13 Items)				
First Year (n=117)	25.05	5.62	-2.23	*.01
Second Year (n=169)	26.61	5.93		
Frequency of Use of General Evaluative Skills Index (9 Items)				
First Year (n=121)	20.07	5.01	-1.85	*.03
Second Year (n=172)	21.16	4.90		
Frequency of Use of Quantitative Skills Index (4 Items)				
First Year (n=125)	4.86	1.64	-2.55	*.01
Second Year(n=187)	5.43	2.15		
Analog Index				
First Year (n=111)	28.45	3.73	1.85	*.03
Second Year (n=148)	27.53	4.14		

[1]For one-tailed test

* p is significant (i.e. p ≤ .05)

practice experience of the second-year class prior to enrollment may have provided such exposure.

By contrast, it was hypothesized that students in the first year (i.e., those who had taken the Foundations course) would score significantly higher on their perception of practice research analogs. The analysis of variance reported in Table 1 supports our prediction (t = 1.85, p = .03). This finding demonstrates the effectiveness of the Foundations course curriculum. Further support for this interpretation comes from the fact that no significant differences were found among sections of the Foundations course itself.

Since the possibility existed that greater practice experience of the second year students may have been responsible for significant difference between the classes, both groups of students were divided into four categories: (1) first year students with less experience, (2) first year students with more experience, (3) second year students with less experience, and (4) second year students with more experience. Less experience was defined as from zero through two years of previous paid experience. More experience included those students who had from three years of experience through 30 years. This division was determined in an effort to create a comparison group of first and second year students that segregated one-year residency (OYR) students

(i.e. students with greater paid social work experience) from the rest of the second year class. By excluding OYR students, the first and second year less experience groups would be more comparable. Appendix 1, Table C, f-tests on each of the indexes by class year and years of experience, summarizes these results.

Interpretation of the results of the f-tests of indexes by class year and years of experience was inconclusive in that the situation required controlling for these two variables. Therefore, a step-wise multiple regression analysis was conducted in which the independent variables, class year and previous paid social work experience, were controlled for in order to ascertain the impact of these variables on the analog scale. Table 2 summarizes these results.

TABLE 2

STEP-WISE MULTIPLE REGRESSION OF ANALOG SCALE

Independent Variable	Step	Multiple R	R Squared	F	Sig. F
Previous Paid Social Work Experience	1	.1813	.0329	8.7372	*p=.003
Class Year	2	.2698	.0728	10.0490	*p=.000

* p is significant (i.e. $p \leq .005$)

Three percent of the variance was related to previous paid social work experience and an additional four percent to class year. Therefore, a total of seven percent of the

variance on the analog scale is explained by class year and previous paid experience. This variance was statistically significant ($p = .000$). Furthermore, since the first year class was more likely to perceive the applicability of research concepts to practice and since class year explains a greater percentage of the variance than does previous paid experience, it is reasonable to say that the impact on a positive perception of the applicability of the research analogs to practice was due to the exposure to the analog content in the Foundations of Social Work Practice course.

In order to ascertain the possible relationship between perception practice-research analogs and pro-research attitudes and behaviors, a correlational analysis was conducted between the Analog index (independent variable) and the nine other research attitude and utilization indexes (dependent variables) for each student group. In general, it was hypothesized that perception of the practice-research analogs would be positively associated with pro-research attitudes and behaviors for both student groups. The results of the correlational analysis are summarized in Table 3.

TABLE 3

CORRELATIONS FOR 9 INDEPENDENT VARIABLES AND ANALOG SCALE FOR EACH STUDENT GROUP

	ANALOG SCALE CORRELATIONS	
Independent Variable	1st Year Students n = 83	2nd Year Students n = 120
Research Confidence Index	.40 *p = .00	-.01 p = .48
Research Anxiety Index	-.37 *p = .00	.04 p = .34
Clinical Mind-Set Index (Abbreviated)	-.43 *p = .00	-.13 p = .08
Research Skill Self-Assessment Index (Includes all 13 Items)	.16 p = .07	.30 *p = .00
General Evaluative Skill Index (Includes 9 Evaluative Skills)	.10 p = .19	.26 *p = .00
Quantitative Skill Index (Includes 4 Quantitative Skills)	.20 *p = .03	.25 *p = .00
Frequency of Use of Research Skills Self-Assessment Index (13 items)	.06 p = .30	.23 *p = .01
Frequency of Use of General Evaluative Skills Index (9 items)	.06 p = .30	.23 *p = .01
Frequency of Use of Quantitative Skills Index (4 items)	.02 p = .44	.06 p = .10

* p is significant (i.e. p ≤ .05)

As predicted, for the first year students who had taken the Foundations course, statistically significant positive correlations were found between the Analog index and research confidence (r = .40, p = .00), and self-assessed quantitative skills (r = .20, p = .03). Statistically significant negative correlations were found between perception of practice-research analogs and research anxiety (r = -.37, p = .00) as well as for the shortened version of the clinical mind-set index (r = -.43, p = .00).

For second year students, statistically significant positive correlations were found between the analog index and self-assessment of research skills (r = .30, p = .00), evaluative skills (r = .26 p = .00), quantitative skills (r = 25, p = .00), and frequency of use of research skills self-assessment (r = .23, p = .01), and frequency of use of evaluative skills (r = .23, p = .01).

In other words, for both groups, the perception of practice-research analogs appeared to be positively associated with an openness to research integration and utilization in practice. For first year students, who had taken the Foundations course, it was most associated with psychological and attitudinal availability (i.e., confidence, anxiety and clinical mind-set). For second year students, perception of practice-research analogs was more positively associated

with measures of practice-research utilization (i.e., self-assessment and frequency measures).

The significantly positive associations between perception of practice-research analogs and self-reported research utilization are related to the non-Foundations course curriculum content and/or practice experiences to which the second year class had been exposed while enrolled in social work school or before.

Perhaps the most important finding in this study is that the Analog Index for the first year class is so strongly negatively associated with a research-rejecting Clinical Mind-Set (r = -.43, p = .00). For the second year class, this negative relationship fell just short of statistical significance (r = -.13, p = .08).

In order to ascertain the impact of previous paid social work experience, class year and analogs on the traditional clinical mindset, a step-wise multiple regression analysis was performed. Previous paid social work experience, class year and the analog index were the independent variables while clinical mindset was the dependent variable. The results are summarized in Table 4.

TABLE 4

STEP-WISE MULTIPLE REGRESSION OF CLINICAL MINDSET

Independent Variable	Step	Multiple R	R Squared	F	Sig. F
Previous Paid Social Work Experience	1	.0065	.0000	.0105	p =.9185
Class Year	2	.0068	.0001	.0057	p =.9943
Analogs	3	.2324	.0540	4.6615	*p =.0035

* p is significant (i.e. p < .005)

Previous paid social work experience and class year did not explain any of the variance. The analog index, however, did account for 5.4% of the variance and was statistically significant (p = .004). This indicates that if previous experience and class year are controlled for, the greatest impact on the clinical mindset is the applicability of the research analogs to practice. This result confirms the findings of the correlational analysis while being able to control for the possible influence of previous paid social work experience and class year.

These findings suggest that exposure to the practice-research analogs within the context of the Foundations course may neutralize the ideological resistance to practice re-

search integration that the "clinical mind-set" may foster (Penka and Kirk, 1991).

Qualitative analysis

For the purposes of qualitative data analysis, students were asked to provide an example of the application of each research concept in practice or to explain why the concept was not applicable to practice. In general, second year students who had not taken the Foundations course were less capable of defining research concept correctly or providing appropriate examples of practice-research applications. Of the second year students who seemed to appreciate the value of research, they tended to emphasize the accountability requisites and funding possibilities that go along with research. As one second year student put it: "research is very useful in order to get funding because of the social spending cutbacks."

Although the first year students were **more** able to provide examples of the research concept's application in practice, their **rejection** or **misapplication** of certain practice-research analogs was, perhaps, most instructive. More specifically, rather than viewing these concepts as useful for improving information collection, analysis and interpretation, several first year students viewed practice-research

analogs as policy prescriptions that conflicted with basic social work values and beliefs.

So, for example, some students rejected the practice-appropriateness of the research concept of "generalizability". As one commented: "social workers should not generalize about people because that is stereotyping and doesn't allow for diversity." Alternatively, "representativeness" was misapplied by other first year students who believed that it "encouraged diversity and equal access."

"Causality", was rejected as a practice-research analog by several first-year students because, in their view, it precludes client self-determination. Thus, one student commented that the concept of causality was not applicable to practice because "it locks in the destiny of the client and does not let the client have free choice."

In general, the qualitative data suggests that even in the face of exposure to the Foundations course, students perceive many research concepts as incompatible with basic social work values and beliefs such as diversity and client self-determination. If this finding is generalizable, it suggests that social work educators need to clarify and delineate practice values and beliefs in a way that is congruent with and supports practice-research integration.

CHAPTER 6 SUMMARY AND CONCLUSIONS

Summary: Assumptions

This dissertation has described and evaluated an educational effort to promote the integration of research and practice. The educational model of practice-research integration presented assumes that the systematic use of qualitative and quantitative information provides the bridge between research and practice and improves practice.

Two other assumptions of the model were that knowledge and understanding of research concepts promote both the direct and indirect use of information and that practice is a positivistic (based on knowledge obtained through observation), information-based process. Furthermore, identification and description of research concepts as well as their practice analogs facilitate a more systematic approach to knowledge development in all forms of social work practice.

The use of practice analogs of research concepts is consistent with the use of analogs in the teaching of social work practice and permits social workers to apply a familiar learning strategy in a new context.

With these assumptions in mind, a research component for a new course at the Hunter College School of Social Work was

developed. This component of the Foundations of Social Work Practice course advocated that students view research as a integral part of practice, that they increase awareness and effectiveness of use of information in practice, and that they be more prepared to master the required research sequence.

The Foundations of Socical Work Practice Course

The Foundations course research component viewed research and practice as parallel processes of the problem solving process which require the collection, analysis, interpretation and utilization of qualitative and quantitative information at each stage of problem solving. This model of practice-research integration assumes that both endeavors require making decisions at each step and that these decisions are based on the information gathered at each stage of the problem solving process. Students were taught selected research concepts as well as their applications in practice by illustrating the practice analog of the research concept. Some of research concepts taught were validity, reliability, representativeness, causality, multi-causality, baseline, generalizability, hypothesis, control group, etc.

The practice-research integration model described in this dissertation has the added advantage of avoiding the dichotomies between practitioner and researcher as well as those

within research over quantitative or qualitative research methods. In bypassing these debates, perhaps future social workers will be more encouraged to integrate practice and research.

Faculty Training Seminar

A two-session training seminar was conducted for all faculty teaching the Foundations of Social Work Practice course in order to assure that each faculty member understood the research component. Each faculty member received an annotated seminar outline that detailed the concepts of the training seminar. The training seminar also included pedagogical approaches to the teaching of research.

Evaluation of Research Component

The Foundations of Social Work Practice course was taught for the first time in September, 1992 to all first year students enrolled in the two-year social work program. (Students in the one-year residency program took the course in the summer of 1993 and were not included in the evaluation process.) The evaluation was quasi-experimental and involved the use of a comparison group--first year students who had just completed the Foundations course and all second year students at the beginning of the research sequence (second week of their first research sequence course). Both qualitative and quantitative measures were made of each

student group. Quantitative evaluation, using existing and original indexes, included measures of student research confidence, research anxiety, clinical mind-set, research skills self-assessment, general evaluative skills, quantitative skills, frequency of research skills self-assessment, frequency of general evaluative skills, frequency of quantitative skills, and the analogs. The qualitative measures asked students to provide examples of the practice analogs of research concepts or to state their reasons why the research concept could not be applied to practice.

Quantitative Findings

Analysis of variance revealed that no significant differences were found between the two student groups with respect to research confidence, research anxiety, clinical mind-set, and self-reported use of quantitative skills. However, significant differences in favor of second year students were found on self-reported research skills, general evaluative skills, frequency of use of research skills and frequency of use of general evaluative skills. These differences were possibly related to the greater exposure of second year students to social work courses and field work experiences as well as differences in the two classes with respect to previous paid social work experience. Despite these differences and the possible explanations for them, the first year students did score statistically significant-

ly higher on the analog scale than did the second year students supporting an inference of the effectiveness of the Foundation course curriculum. Step-wise multiple regression analysis controlling for previous paid social work experience and class year accounted for a total of seven percent of the variance on the analog scale (three and four percent respectively).

In an effort to understand the relationship between the perception of the analogs and other pro-research attitudes and behaviors a correlational analysis between the analog index and the nine other indexes was conducted. This analysis revealed that the perception of practice-research analogs appeared to be positively associated with an openness to research and practice integration for both student groups. For the first year students this association was with the indexes that related mainly to psychological and attitudinal factors (research confidence, research anxiety and clinical mind-set). More specifically, evaluation of the course suggested that acceptance of the practice uses of research concepts was positively associated with confidence about taking research courses and negatively associated with research anxiety. While previous research has shown that confidence and anxiety measures are not necessarily associated with performance in research courses, they are likely to be associated with greater openness to practice-research

integration (Rosenthal & Wilson, 1992; Wilson & Rosenthal, 1992). In the second year class, the association existed between the analogs and those indexes that measured practice-research utilization.

Perhaps most importantly, this study revealed that the analog index for the first year students is strongly negatively associated with a research-rejecting clinical mind-set in which social workers firmly believe that:

> "... therapeutic change is difficult if not impossible to measure, that intuition is better than objective measures, and that therapeutic processes do not lend themselves to empirical study." (Penka & Kirk, 1991, p. 516).

The impact of the analogs on clinical mind-set was also studied using a step-wise multiple regression analysis controlling for both previous paid experience and class year. This analysis revealed that none of the variance was due to either previous paid social work experience or class year while 5.4 percent of the variance was explained by the analog index.

The strength of the negative association between the analog and clinical mind-set scales as well as the variance explained by the analogs on clinical mind-set when controlling for previous paid experience and class year provided evidence that the use of the practice analogs of research concepts in social work education may help promote practice-

research integration by neutralizing what Penka and Kirk (1991) have referred to as a "traditional clinical mind-set" (p. 516).

Qualitative Findings

Based on the analysis of qualitative data, the second year students--i.e. those who did not take the Foundations of Social Work Practice course--were less able to define or provide examples of the way research concepts could be applied in a practice situation. First year students, although more capable of applying research concepts to practice, tended to reject or misapply in meaningful ways some of these concepts. Some of the first year students viewed practice-research analogs as policy prescriptions that obstructed the operationalization of social work values and beliefs in practice situations. "Generalizability," for example, precluded encouraging or acting in accordance with beliefs favoring diversity, and "causality" conflicted with values and beliefs associated with self-determination.

Thus, the qualitative findings of this study provided some insight into persistent and erroneous beliefs that many students have about the inherent incompatibility of research concepts and practice. It appears that social work students view certain research concepts in as inherently in conflict with basic social work practice values and beliefs.

Conclusions: Pedagogical Implications

The challenge for educators committed to practice-research integration is to provide additional delineation and clarification of social work values and beliefs so that these will not be viewed by students as conflicting with research concepts. In other words, when research uses of concepts such as "generalization," "causality," and "representativeness" are applied in a practice situation, their usage needs to be illustrated in a way that reinforces the perception of their compatibility with practice and social work values and beliefs. Furthermore, social work values such as diversity, self-determination and the uniqueness of each individual need to be described and examples provided that emphasize their congruence with research concepts and purposes.

Pedagogical approaches to transmitting social work values and beliefs that stress the basic compatibility of these values with research as well as practice appear to need additional development. In order to generate these approaches educators need to understand the sources and causes of conflict, struggle and confusion about social work values and beliefs that students experience in trying to integrate research into practice. Additional examination of the qualitative data presented in this dissertation might be useful in this search. Additional analysis of quantitative

data, controlling for variables such as years of experience and major practice method, may clarify their relationship to and influence on clinical mind-set and the perception of the applicability of practice analogs of research concepts to practice. An understanding of these influences might, with the additional qualitative data, provide information that would help improve efforts devoted to enhancing social work educators' understanding of values and beliefs impeding practice-research integration.

Practice Implications

The use of the practice analogs of research concepts appears to have implications for social work practice by reducing the traditional clinical mind-set. Social work practitioners who apply research analogs in practice may be in a position to make the practice more systematic and less vulnerable to criticisms that reduce the value of services provided by the profession. All workers would be able to identify the types and sources of information used that led to the assessment, planning, implementation and evaluation of service and the decisions made at each stage of service provision. Both Roberts (1989) and Kondrat (1992) claim that the interests and relationship to practice of researchers and practitioners are different. Roberts (1989) suggests that researchers need to develop an interest in studying the "doing" (p. 84) of practitioners and alter their

methods to fit the needs of the practice situation. Kondrat (1992) proposes that the "cognitive status of practical knowledge" (p. 249) needs clarification and understanding to bridge the researcher-practitioner gap. However, the systematic use of information and the practice-research analogs proposed in this dissertation would serve as a bridge between practice and research. It would facilitate more rigorous practice and research efforts that would be more accessible and relevant to practice decision making. This approach would decrease the existing practice-research gap while providing a vehicle for the clarification of the cognitive status of practice knowledge through the use of practice-research analogs and information needed and gathered as part of the problem sloving process in practice.

Research Implications

Researchers advocating various research paradigms also acknowledge the gap between knowledge obtained through research and the practitioner's use of scientific knowledge --including all knowledge derived from any research method or combination of methods--(Kondrat, 1992; Lindsey & Kirk, 1992; Report of the Task Force on Social Work Research, 1991; Roberts, 1989). In addition to the explanations for this gap the literature offers various strategies for bridging it. Nonetheless, Lindsey and Kirk (1992) have suggested that the solutions offered have not been bold enough. Thus,

they propose a concentration in research in doctoral programs at a few (not to exceed 12) social work schools (Lindsey & Kirk, 1992). These schools would not offer Master's degree training.

Aside from perhaps encouraging elitist and exclusionary attitudes on the part of these select institutions and therefore perpertuating the difficulties referred to by Karger (1983), this would eliminate the Master's degree from some schools of social work, that because of their status as publicly funded institutions have a mission/obligation to meet the needs of the community in order to maintain doctoral education and research. Loss of Master's level students would pose a serious loss of revenue for any university in this position as well as alienate community agencies that depend on field placement of Master's students to provide some the services to clients.

Alternatively, since some of these schools are already known for their teaching of social work research at both the Master's and doctoral levels, this proposal could eliminate existing doctoral programs in which research is clearly emphasized (e.g. University of Michigan) so that their mission as a public unversity to produce large numbers of practitioners could be maintained. Alternatively, high quality Master's programs might be eliminated. Either way,

certain universities would suffer immensely from the implementation of such a proposal because of the loss of either the Master's or Doctorate programs that are already a part of the institution. Another implication of the Lindsey and Kirk (1992) strategy is that it would diminish the positive impetus/pressure toward practice-research integration that has amassed over the past two decades.

One area in which future research efforts may need to be directed is at the evaluation of various approaches to the transmission of values and beliefs so that effective methods could be identified and implemented with social work students. Another area for study would be to identify qualitative research concepts and their practice analogs so that analogic approach of information as the bridge between practice and research would truly include all research paradigms and all types and sources of information. This researach focus would require a clear explication of the research concepts embraced in each of the qualitative methodologies.

Additionally, students who have been exposed to the analog content should be surveyed at various intervals after graduation to ascertain the impact of this content on clinical mind-set and on both the ability and frequency of use of research skills. A comparison of this student group (i.e.

this study's first year students) with the students who graduated the previous year (i.e. this study's second year students) would help to ascertain what, if any, impact this course content (as opposed to practice experience) had on practice and on their ability to integrate practice and research as professional social workers.

Although the false dichotomies between practitioner and researcher and between quantitative and qualitative research paradigms are far from being reconciled, social work educators must prepare curricula to promote practice-research integration and teach prospective social workers techniques for utilizing existing knowledge derived from the information-driven processes of both research and practice. The use of practice analogs of research concepts is one approach that may help bridge the acknowledged gap between research and practice by enabling students to view both of these functions as information-driven parallel processes that are compatible with every model of social work intervention.

APPENDIX 1--ADDITIONAL TABLES

TABLE A

T-Tests for Research Skills Self-Assessment by Year

"Ability to Use" Items	Mean	Std. Dev.	t Value	p Level[1]
General Evaluation Skills				
Specify intervention goals				
First Year (n=132)	2.31	.79	-2.87	*.00
Second Year (n=189)	2.56	.72		
Operationalize target problems				
First Year (n=129)	2.34	.82	-2.38	*.00
Second Year (n=184)	2.54	.68		
Involve client/program staff in setting goals				
First Year (n=130)	2.34	.76	-3.49	*.00
Second Year (n=187)	2.62	.64		
Describe goals in measurable terms				
First Year (n=128)	2.14	.83	-3.34	*.00
Second Year (n=187)	2.43	.74		
Write intervention goals in notes				
First Year (n=130)	2.50	.67	-1.54	.06
Second Year (n=190)	2.61	.65		
Operationalize intervention components				
First Year (n=126)	2.22	.73	-1.46	.07
Second Year (n=180)	2.35	.77		
Describe intervention techinques				
First Year (n=130)	2.38	.77	-2.36	*.01
Second Year (n=190)	2.58	.69		
Monitor client/program change over time				
First Year (n=127)	2.31	.71	-1.62	*.05
Second Year(n=189)	2.44	.76		
Have client/agency staff self-monitor progress				
First Year (n=127)	1.96	.75	-1.55	.06
Second Year (n=189)	2.10	.76		
Quantitative Evaluation Skills				
Use rating form to measure change				
First Year (n=130)	1.69	.77	-1.44	.08
Second Year (n=187)	1.82	.76		

"Ability to Use" Items	Mean	Std. Dev.	t Value	p Level[1]
Use standardized questionnaires				
First Year (n=130)	2.12	.83	.89	.19
Second Year (n=189)	2.03	.83		
Use graphs to measure change				
First Year (n=130)	1.77	.82	1.47	.07
Second Year (n=189)	1.63	.79		
Use statistical techniques to evaluate change				
First Year (n=130)	1.52	.70	.06	.48
Second Year (n=190)	1.51	.72		

[1] For one-tailed test

* p is significant (i.e. p ≤ .05)

TABLE B

T-TESTS FOR FREQUENCY OF USE OF RESEARCH SKILLS BY YEAR

"Frequency of Use" Items	Mean	Std. Dev.	t Value	p Level[1]
General Evaluation Skills				
Specify intervention goals				
First Year (n=131)	2.33	.84	-1.95	*.03
Second Year (n=188)	2.51	.77		
Operationalize target problems				
First Year (n=127)	2.33	.83	-.50	.31
Second Year (n=183)	2.38	.79		
Involve client/program staff in setting goals				
First Year (n=130)	2.40	.78	-1.90	*.03
Second Year (n=189)	2.56	.72		
Describe goals in measurable terms				
First Year (n=129)	2.06	.87	-2.48	*.01
Second Year (n=190)	2.31	.85		
Write intervention goals in notes				
First Year (n=126)	2.48	.78	-.56	.29
Second Year (n=188)	2.53	.72		
Operationalize intervention components				
First Year (n=129)	2.23	.79	.23	.82
Second Year (n=184)	2.21	.80		
Describe intervention techinques				
First Year (n=126)	2.34	.81	-.75	.23
Second Year (n=190)	2.41	.80		
Monitor client/program change over time				
First Year (n=128)	2.20	.80	-1.44	*.08
Second Year(n=188)	2.34	.85		
Have client/agency staff self-monitor progress				
First Year (n=126)	1.69	.77	-2.73	*.00
Second Year (n=185)	1.95	.83		
Quantitative Evaluation Skills				
Use rating form to measure change				
First Year (n=126)	1.28	.58	-2.13	*.02
Second Year (n=189)	1.44	.71		
Use standardized questionnaires				
First Year (n=129)	1.26	.59	-2.31	*.01
Second Year (n=189)	1.44	.71		

"Frequency of Use" Items	Mean	Std. Dev.	t Value	p Level[1]
Use graphs to measure change				
First Year (n=130)	1.15	.42	-1.98	*.02
Second Year (n=189)	1.27	.57		
Use statistical techniques to evaluate change				
First Year (n=130)	1.15	.36	-2.06	*.02
Second Year (n=190)	1.27	.59		

[1] For one-tailed test

TABLE C

SUMMARY OF F-TESTS OF INDEXES BY CLASS YEAR & YEARS OF EXPERIENCE

Index	Mean	Std Dev	f Value	p Level[1]
Research Confidence Index				
First Year Less Exp (n=108)	29.02	8.37		
First Year More Exp (n=22)	28.00	10.08	.67	.57
Second Year Less Exp (n=83)	29.76	8.59		
Second Year More Exp (n=107)	28.08	8.64		
Research Anxiety Index				
First Year Less Exp (n=107)	5.05	1.68		
First Year More Exp (n=21)	5.03	1.85	.77	.51
Second Year Less Exp (n=83)	4.74	1.75		
Second Year More Exp (n=106)	5.10	1.74		
Clinical Mind-Set Index (Abbreviated)				
First Year Less Exp (n=106)	21.60	4.21		
First Year More Exp (n=20)	22.35	4.76	.35	.79
Second Year Less Exp (n=80)	21.63	4.34		
Second Year More Exp (n=102)	21.33	3.78		
Research Skills Self-Assessment (Includes all 13 Items)				
First Year Less Exp (n=91)	21.47	5.69		
First Year More Exp (n=18)	28.44	4.66	7.71	*.00
Second Year Less Exp (n=71)	27.13	6.36		
Second Year More Exp (n=94)	30.81	5.07		
General Evaluative Skill Index (Includes 9 Evaluative Skills)				
First Year Less Exp (n=93)	20.38	4.49		
First Year More Exp (n=19)	21.58	3.29	13.90	*.00
Second Year Less Exp (n=72)	20.24	4.68		
Second Year More Exp (n=97)	23.75	3.52		
Quantitative Skill Index (Includes 4 Quantitative Skills)				
First Year Less Exp (n=106)	7.15	2.28		
First Year More Exp (n=21)	6.81	2.38	.20	.90
Second Year Less Exp (n=82)	6.93	2.33		
Second Year More Exp (n=104)	7.05	2.58		
Frequency of Use of Research Skills Self-Assessment Index (13 Items)				
First Year Less Exp (n=98)	24.66	5.72		
First Year More Exp (n=19)	27.05	4.72	7.30	*.00
Second Year Less Exp (n=73)	24.75	6.35		
Second Year More Exp (n=96)	28.02	5.19		
Frequency of Use of General Evaluative Skills Index (9 Items)				
First Year Less Exp (n=101)	19.80	5.14		
First Year More Exp (n=20)	21.45	4.15	7.62	*.00
Second Year Less Exp (n=74)	19.04	5.30		
Second Year More Exp (n=98)	22.48	4.12		

Index	Mean	Std Dev	f Value	p Level[1]
Frequency of Use of Quantitative Skills Index (4 Items)				
First Year Less Exp (n=105)	4.77	1.55		
First Year More Exp (n=20)	5.30	2.03	2.62	*.05
Second Year Less Exp (n=83)	5.37	2.22		
Second Year More Exp (n=104)	5.48	2.09		
Analog Index				
First Year Less Exp (n=93)	28.37	3.67		
First Year More Exp (n=18)	28.89	4.11	3.94	*.01
Second Year Less Exp (n=62)	26.45	3.50		
Second Year More Exp (n=86)	28.30	4.40		

[1] For one-tailed test

* p is significant (i.e. p ≤ .05)

APPENDIX 2--PROGRAM MATERIALS
Training Course for Faculty

I. Introduction

A. Assumptions of the Course

1. "The conduct of social work practice requires that the practitioners obtain and process information about the clients, groups, organizations, or communities with whom or which they work." (Tripodi & Epstein, 1978, p. 65)

2. "Since social research methods are tools for gathering systematic information about social phenomena, they can be regarded as methods for processing information." (Tripodi & Epstein, 1978, p. 65)

3. "Social research methods can be used, or adapted for use, to serve as information processing tools for social work practice." (Tripodi & Epstein, 1978, p. 65)

4. Social workers will adapt research methodology if:

a. the methods are available to them

b. the research methods correspond to the informational requirements of social workers

c. the research methods are compatible with methods of social work practice

d. the methods can be implemented

i. indirectly useful: principles of research design, sampling, instrument construction

ii. directly or indirectly useful: standardized questionnaires, rating scales, psychological tests, observation coding systems, interview schedules

e. the costs are minimal (Tripodi & Epstein, 1978, p. 68).

STRESS: Specifically, the model I am suggesting deals with the practice analogues of research concepts and methods.

5. Research and Practice are parallel processes and that both are really expressions of the Problem-Solving Process

6. Research is not an end in itself--It will only be used by social workers if findings can be tied directly to practice decisions (Epstein & Tripodi, 1978, p. 296).

7. Social workers will employ research techniques in the best service and social change traditions of social work--not only for organizational maintenance or aggrandizement (Epstein & Tripodi, 1978, p. 296).

8. There are practice-based models of research--some of which may be more preferable than others from the clinician's point of view

    a. Single Subject Design--a.k.a. *N=1, single case time series* and *idiographic research*

        i. "Is what I am doing with this client or with this client group really working?" i.e., seeks to determine practice effectiveness by measuring changes as they occur over time-- this approach entails the introduction of an independent variable and can, depending on the design followed utilize a control group

        ii. Claims to be able to be used with individuals, families, groups, organizations or even communities

        iii. Usual target for change is a behavior

        iv. Can only examine one type of intervention and changes in one type of behavior

        v. Assumes that if intervention makes a difference that difference should be able to be measured such that the presence or absence of the intervention will make a difference--***Consider the ethical dilemmas of withholding an intervention--***

vi. AB, ABA, ABAB, BAB, ABCD, and Multiple Baseline designs--entail a (AB) baseline then intervention; (ABA) intervention then withdrawal of intervention and second observation period, (ABAB) baseline observation then intervention then withdrawal with observation then intervention, (BAB) intervention then withdrawal then intervention

NOTE: Single subject design should be differentiated from other forms of practice evaluation in that it truly emphasizes the scientific method of research including use of control "groups"--groups really become the specific intervention/technique (i.e. its presence or absence at different points in time)--and measurement of dependant variable.

b. Research Development and Training Evaluation--research is conceived and executed by a team of researcher and practitioners--those aspects of practice that gain empirical support are described so that they can be used for training purposes--a training program is developed and implemented and then evaluated

c. Utilization, Research and Development--in addition to designing, implementing and evaluating the training program, the hypotheses on which the training program is based have been derived from a systematic review of the literature

Epstein & Tripodi, 1978, pp. 304-305

d. Case Studies of new practice modalities--attempts to systematize experiences in developing practice interventions and to formulate hypotheses for research--useful when practitioners do not have well-developed theories or practical guideline for conducting their work

e. Program Evaluation--assesses program effectiveness and efficiency--collection, analysis and interpretation of data bearing on the achievement of program goals--

i. formative program evaluation--seeks to assess and improve a specific program without regard to generalizability

Tripodi & Epstein, 1978, pp.74-75

ii. summative program evaluation--systematic assessment that provides information that is generalizable to other comparable programs and situations

f. Experimental Social Innovation--use of experiment methods for testing policy or practice alternatives (includes Social Research & Development, Action Research discussed earlier)

g. Empirically Based Practice (EBP)--includes many of the above methods--in the literature it generally refers to single subject design--For our purposes we will expand EBP to reflect the broader meaning of "empirical" and to include all forms of practice-based research--See section on meaning of "empirical"

B. Assumptions Regarding Social Worker's Use of Information

1. "Social workers have specific needs for information to assist them in their practice." (Tripodi & Epstein, 1978, p. 66)

2. "...[S]ocial workers should recognize or believe that their current procedures for securing information are insufficient." (Tripodi & Epstein, 1978, p. 67)

3. Research methods can be adapted for use in practice. (Tripodi & Epstein, 1978)

4. "...[S]ocial workers who already incorporate research methodology into their practice are more likely to seek additional knowledge of research methods than are social workers who do not routinely employ methodological knowledge." (Tripodi & Epstein, 1978, p. 67)

II. Reasons for Resistance to Research [Epstein, I. (1987). Pedagogy of the Perturbed: Teaching of Research to the Reluctants. Journal of Teaching in Social Work, 1(1), pp. 71-89

A. Job definition and workload prohibit conduction research

B. Classic experimental designs present ethical dilemmas to practitioners, political problems to social work agencies and administrators, and are unacceptable to clients in need of service

C. Statistical techniques are not understood and/or are unavailable (i.e. not computer support)

III. Strategies to Combat Resistance

A. Start Where the Students Are At

1. Acknowledge the resistance--don't join it, rather reach for the feelings causing the resistance: fear, loathing and inadequacy--have an open honest time-limited discussion at the start of the class about the negative attitudes toward research--

2. Reassure students of ability to master content, encourage questions, communicate confidence

3. Link research concepts, techniques and finding to client service, accountability and agency change

B. Let the Students Set the Pace

1. Gear pace to that of most of students

a. Active listening

b. Pay attention to non-verbal signs of confusion, tuning out, fidgeting, etc.

C. Link Assignments to Student Objectives and Concerns

1. Link assignment to field placement

a. Practicality--link to practice issues and concerns--this ties research concepts, information gathering, data-analysis directly to the on-the-job problem solving/empirically-based/differential practice/research model

b. Partialization--break questions down into logical sequence of steps that corresponds to topics in the course

c. Data Collection & Analysis--encourage students to work with real data--available or original

d. Broader Implications--consider impact of work on the field--this moves student from lower to higher levels of abstraction

e. Strategic Compromises--at each step these will have to be made--in real research this happens all the time--strive to maximize research principles but understand that this is rarely, if ever, achieved

D. Respect Students and Their Innate Desire To Learn

E. Demystify But Do Not Trash

1. Make research concepts and techniques comprehensible without trivializing or debunking

a. Convey that research is a positive activity that can contribute to professional effectiveness

F. Teach statistics from the standpoint of the consumer

1. Under what circumstances to use and apply which statistical measure--the kinds of inferences that can be made

G. A Little Humor Goes a Long Way

1. Not just jokes but examples of real "screw-ups" on research projects

a. Illustrates research principles

b. No research is perfect

c. Can learn from imperfect projects

IV. Common Framework for Practice & Research--Problem Solving Process/Empricially Based Practice/Differential Problem Solving Practice Model

A. Definition of **Empirical**

1. Empirical **does not** mean "numerical"

2. Empirical means "subject to verification through observable events" which are of either a qualitative or quantitative nature.

a. Behaviorist might count the number of times a client cried during a session, how long each spell of crying lasted, etc.

b. Another type of clinician might observe the non-verbal behavior of the client--the body language, affect, etc. or ask for the client's own description of their affect or activity.

NOTE: Use the example of the police officer who was able to systematize the behavioral cues associated with carrying a gun (from NYT)

It is also possible to use client's own description of how events have changed by obtaining information about their "baseline" state--as in the crisis intervention model--and then comparing the current and later future functioning to the baseline.

c. From the community perspective--the smell, tastes, sights/scenes & happenings as well as the noises of the community are all observable phenomena, and therefore, fit into the category of empirical--

d. A, B, & C are empirical because all are observable--both have operationalized the concept of "depressed" and both can state what observations would comprise depressed behavior

B. Characteristics of Empirically Based Practice

1. Worker makes use of research findings

2. Worker collects data systematically in order to monitor the intervention process

3. Worker **empirically** demonstrates whether or not interventions are effective

4. Worker specifies problems, interventions and outcomes in terms that are concrete, observable and measurable

5. Worker measures outcomes, uses research logic and methods in defining clients' problems, formulating practice questions, collecting assessment data, evaluating intervention effective and using evidence

6. Worker sees research and practice as part of same problem-solving process/paradigm

7. Worker sees research as tool to be used in practice--a tool which can enhance service to clients (Siegel, 1983, p.13).

V. Differential Evaluation

A. "Differential evaluation is a process of asking different evaluation questions of [practice and] program efforts, effectiveness and efficiency for each [practice and] program stage of development and then choosing those evaluation strategies that are most appropriate to the evaluation objectives." (Bielawski & Epstein, 1984, p. 15).

B. "The essence of the 'differential evaluation' approach...is the matching of research strategies to evaluation objectives at different [practice and] program stages." (Bielawski & Epstein, 1984, p. 13).

C. Definitions of the three criteria of evaluation:

1. "Program effort refers to descriptive information about the type and quantity of program activities/inputs considered necessary for the accomplishment of program goals within a particular stage of development" (Bielawski & Epstein, 1984, p. 20).

2. "Program effectiveness concerns itself with whether the intended goals for a particular stage have been attained as a result of program efforts. It may also include information on the achievement of program goals in relation to the need for the program" (Bielawski & Epstein, 1984, p. 20). An index of program effectiveness is comprehensiveness "which relates goal achievement to community needs; it indicates the impact a program has on the community in which it is located" (Tripodi, Fellin & Epstein, 1978, p. 43).

3. "Program efficiency focuses on the relationship between effort and effectiveness" (Bielawski & Epstein, 1984, p. 20). "Questions regarding efficiency are familiar to administrators who are involved in making programmatic decisions within the constraints of rela-

tively fixed budgets. Evaluation of efficiency often involves comparison of two or more techniques (or strategies or programs) with respect to their relative costs and program outcomes" (Tripodi, Fellin & Epstein, 1978, p. 45). NOTE: A reduction in costs that leads to a corresponding reduction in effectiveness does not make a program more efficient. **"IN OTHER WORDS, PROGRAM EFFICIENCY IS THE RATIO OF PROGRAM EFFECTIVENESS TO PROGRAM EFFORTS."** (Epstein, & Tripodi, 1977, p. 111).

D. Summary

"That is, it provides a guide for matching evaluation objectives and strategies to particular stages of [practice and] program development." (Bielawski & Epstein, 1984, p. 15)

Parallels Among Problem Solving, Research & Social Work Intervention*

Problem Solving	Research	Social Work Intervention
1. Recognizing the difficulty	Problem identification and specification	Problem identification and specification
2. Specifying the problem		Assessment
3. Suggestion possible solutions	Formulation of a hypothesis	Planning of treatment/ intervention
4. Exploring suggestions rationally	Design construction	
5. Collecting data	Data collection	Data collection (throughout)
6. Selecting an alternative		Intervention
7. Carrying out the alternative	Experimental manipulation	
8. Evaluating the outcome	Data analysis and interpretation	Evaluation and termination

(*Siegel, 1984, p. 328)

"...Many social workers who engage in some clinical evaluation do not recognize the extent to which they are engaging in it or do not realize how a few additional activities (for example, the use of objective measures) could put their work in the realm of practice research." (Penka & Kirk, 1991, p. 517).

Give examples of assessment, goal setting, evaluation of goal attainment in clinical work is a form of evaluation. Eg. Checking it out with the client--Asking the client how the client feels about his or her progress toward the goal. Many times the client will volunteer this information. How the clinician uses this information determines whether or not it fits into an evaluative model. Telling the student during field placement supervisory session to "get the facts" in order to get clearer understanding of client situation.

NOTE: A detailed description of each of the stages appears on the following pages.

Parallels Among Problem Solving, Research & Social Work Intervention

(Note: Content for this outline obtained from: Powers, G.T., Meehnaghan, T.M., & Toomey, B.G. (1985). Practice Focused Research: Integrating Human Service Practice and Research. (pp. 20-62). Englewood Cliffs, NJ: Prentice-Hall).

Stages of Problem Solving

I. Recognizing the difficulty

A. Research

Problem identification and specification

1. Arises out of the curiosity of the researcher who realizes that there are phenomena about which we know very little.

2. There is a compulsion to question, to speculate and to ultimately want to search out answers.

3. Potential research questions arise all the time, however, they need to be formulated in a meaningful way. Look for the patterns beyond the level of a client or a case. This helps to justify the importance of the problem.

4. The merit of a research effort depends on the potential contribution it makes to the development of knowledge.

   Pure research--effort to arrive at scientific generalizations and the refinement of theory.

   Applied or Action research--refers to finding a solution to an immediate or specific problem related to some aspect of induced change.

5. Does the research make a meaningful contribution to the understanding of the problem we wish to solve. Therefore, problem must be stated clearly, completely and concisely.

6. Must establish a rationale for why the problem is worth investigating--**rationale for inquiry**

7. Literature Review--places the problem in perspective relative to the range and depth of

scholarly and professional activity that exists within the general area in which the research problem falls. Helps the researcher to understand how the investigation of the current problem will build upon and extend the work of others.

B. Practice

Problem identification and specification

1. Presenting problem--"start where the client is at" Get client's point of view, feelings and reactions about the situation and the surrounding circumstances--gives client a sense of worth, helps to build the trust necessary for later stages of the work.

2. Consider the client's broader life situation --what is the nature and meaning of the problem in view of the clients' perception of their realities of past, present and future life circumstances--Worker becomes a data-gathering instrument like a questionnaire or interview schedule--This aspect of identification and specification helps to increase the chances that the information we get is valid, reliable and sufficient--Focus here is on the reality of the presenting problem in terms of its subjective meaning to the client.

II. Specifying the problem

A. Research

Relationship of Problem to Theory

1. Develop theory--that is, a generalization or series of generalizations by which we attempt to explain the interrelationships among phenomena in a systematic manner. This allows for consequences of discoveries that (a) adequately address the specific problem for which answers are sought and (b) move beyond the concrete circumstances that sparked initial interest.

2. Theory describes the logical relationships that exist among parts of the world and research offers the means for seeing whether those relationships actually exist in the real world. Theory guides efforts to organize and interrelate the various facets of

the research effort and serves to generate testable hypotheses.

B. Practice

Assessment

1. All parties involved engage in a mutual knowledge-building process.

2. Develop theories. That is, analytical schemes or proposals as to how some aspect of the "observable"/ empirical world is supposed to operate. This speculation about the client's problem and the relating of one piece of knowledge to another in an effort to make sense out of it and impose an order on the information we have gathered is "theorizing."

3. The attempt to understand the purpose of behavior and the factors that have caused it makes us go beyond the subjective level of awareness provided by client. We are in search of some sort of EXPLANATION that can lead to the modification of the factors that account for the problematic situation.

4. The facts in and of themselves do not disclose their own meaning--We are imposing that meaning, or interpretation, on the facts by use of theories.

5. The assessment phase is really the logical process by which we reason from the facts or the particulars in a given situation to tentative conclusions regarding the meaning of those facts. These conclusions are conjectural statements that are warranted by the available facts BUT have yet to be confirmed or disproved in practice. **The translation of conjectural statements into a form that permits them to be empirically tested in practice is really the creation of "diagnostic hypotheses."** Diagnostic hypotheses yield, ideally, the formulation of effective interventions.

III. Suggest possible solutions

A. Research

Formulation of a hypothesis

1. Testable hypotheses formulation--hypotheses are exclusive conjectural statements that set forth what we expect to occur in the real world if the body of facts and assumptions upon which they rest is found to be correct.

2. Not all research is designed to test hypotheses. In some situations the knowledge is at such a primitive level that any effort to formulate or test a hypothesis is premature. Sometimes it is necessary to conduct an exploratory study in order to generate the hypotheses--this type of study will stress reporting, describing and speculation about collected data.

3. Research hypotheses can be expressed in two general forms--(a) one that predicts the specific nature of the expected outcome--that is, a statistically significant relationship between variables or groups (i.e. research hypothesis) or (b) one that assumes that the outcome will reveal no such relationship or difference (i.e., null hypothesis).

4. The acceptance or rejection of any hypothesis depends solely on the evidence revealed in the facts.

B. Practice

Formulation of Diagnostic Hypothesis

1. Rarely is one diagnostic hypothesis the only one that can be created from the information gathered. In fact, several theories can usually be generated from the same set of facts. Some of these theories might be mutually exclusive, or even contradictory. Consequently, what we have is a problem of differential diagnosis.

2. In order to resolve this, the practitioner needs to gather additional information which will confirm or disprove each of the competing hypotheses. This is actually a rational process in which the practitioner designs an orderly approach to the collection of additional information including both the kinds of information needed and the method for gathering the information.

3. The differential diagnoses/hypotheses need to be shared, even developed, with the client--

helps allay anxiety and lets the client know that the worker is systematically working to solve the problem--Also serves as a model for the problem-solving process--"Trust to life" adage can take over in the future.

4. Next comes the gathering of the additional information necessary to confirm or disprove the various diagnostic hypotheses that have been generated. Helps us to get rid of diagnostic hypotheses that are not plausible.

5. Arrive at a tentative hypothesis--working diagnosis.

IV. Exploring suggestions rationally

A. Research

Design construction

1. What information do we need in order to confirm or disprove our stated hypothesis?

2. How are we going to get this information?

3. This stage and questions 1 & 2 help to provide a set of systematic procedures for producing data pertaining to the development, modification, or expansion of knowledge

4. **There is no one right methodological design.** The relative merits of each methodological design should be considered in light of the information needed to answer the research question, the conceptual,logistical or ethical issues involved.

B. Practice

Planning of treatment/intervention

1. Diagnosis yields a plan of treatment/intervention--a blueprint for action--a strategy for the handling of the problem as well as a set of specific tactics as to how to operationalize the strategy in relation to the client and the broader social environment of the client.

2. Both the client and the worker must agree and understand what needs to be done, who will be expected to do what, where it will take place,

and the timeframe within which the intervention will occur. **This comprises the working contract.** Also need to address **the target of intervention, the modes of intervention, and the change agents.**

V. Collecting data

A. Research

Data collection

1. Collection of data yields the information necessary to answer the questions posed by the research problem. Value of the study depends on the data collected.

2. Must be clear re: what kind and how much information is needed, who is to gather it and where is the information to come from.

3. What is the best observational method to accomplish the gathering of the information needed to answer the research problem/question? Quantitative or qualitative data; from agency records, published articles, reports or data generated from a new study?

4. This is where bias, inadvertently, tends to get introduced--The two most common origins of bias are the **methods** and **sources** of obtaining the data.

B. Practice

Data collection (throughout)

1. This occurs throughout the helping process and is an essential component of any informed approach to practice.

VI. Selecting an alternative

A. Research

Interpretation of the Data

1. This involves the discovering of the meaning of the data--Interpretation of data is as important as the planning of intervention in practice.

2. Organization and Analysis of the Data--Is the data with which we are dealing make sense--

are they internally consistent and creditable? Is the data representative of the population from which it was drawn? Is the data pool large enough to allow for generalization? Is any data missing? Is the data usable? Is the data collected sufficient to answer the questions raised by the research problem? Can any patterns be identified--in the case of qualitative data?

3. Research deals with probabilities **NOT** certainties. Any conclusions should be framed in somewhat conservative terms despite the researcher's confidence in their findings.

4. If the data are accurate, then this is what I think they mean.

5. This is easy when the data are consistent with the stated hypothesis.

6. When data do not support hypothesis the problem of interpretation is more complicated. Here the researcher must consider alternate explanations--These can result in revisions of the hypotheses and/or theory.

B. Practice

Intervention

1. Implementation must be guided by and consistent with the planning of the intervention. This is important because often those who plan are not the people who implement the intervention--

2. Although intervention starts with the initial contact the type of intervention in this phase is specific to the client and the knowledge that can be derived only on the basis of a systematic assessment of the particular client. The first kind of intervention was really based on the principles, ethics and practices that social applies to all people.

VII. Carrying out the alternative

A. Research

Experimental manipulation

1. The actual research problem and its design get implemented

2. Social work has a driving imperative of **doing** rather than merely knowing. Therefore, the intervention must be practice oriented.

B. Practice

1. Occurs from the first contact with client--includes carrying out the selected intervention plan based on assessment process and differential diagnosis of the problem--and continues to termination and/or follow-up.

VIII. Evaluating the outcome

A. Research

Data analysis and interpretation/Dissemination

1. What implications do the finding have for practice. This means that the interpretation must be presented in general terms so that the consumers of the research can extrapolate the particular implications of the research for their practice. Therefore, the interpretation of findings and implications for practice are really separate phases.

2. Knowledge gained from the research effort must be disseminated through publication, lectures, presentations, workshops, conferences, books, etc.

3. Research raises at least as many questions as it answers. It begins with a problem and ends with the identification of a new set of problems--a continuous cycle.

B. Practice

Evaluation and termination

1. Starts will the gathering of information and is the basis for conducting an informed practice.

2. Exists on several levels--did the problem get resolved--rarely is this a simple "Yes/No"--Rather the answer is in relative terms.

3. Evaluation involves the monitoring of the helping process as well as the evaluation of

outcomes. This is necessary in order to help us to execute appropriate adjustments in the intervention.

STEPS OF DIRECT PRACTICE
AND POLICY PROGRAM/ORGANIZATION RESEARCH AND DEVELOPMENT

I. Steps of practice

Includes direct/micro-practice and macro-practice (administration, community organization, etc).

A. Direct Practice

1. Problem Definition/Assessment

   a. Defn: Beginning phase of practice; worker obtains a sense of the problems and issues confronting clients; includes client's perceptions of problems/issues (Blythe & Tripodi, 1989, p. 16).

   b. Questions: What are the most important problems, if any, for the client? Are the problems sufficiently serious so that intervention is justified? Do the problems involve prevention, maintenance, or change of behaviors, beliefs, cognitions, affective states, or familial and/or environmental conditions? If the problems require change, what is the desired level of change? (Blythe & Tripodi, 1989, p. 16)

2. Intervention Choice/Planning

   a. Components: Target of intervention is decided; who is to be involved (client, significant others, community members, etc); general objectives are delineated; short and long-term goals defined; interventions to accomplish those objectives are chosen; interventions are proceduralized by specifying the exact conditions under which they will be applied; hypotheses are made that relate the attainment of intervention objectives to the implementation of interventions; worker decides on the criteria for the attainment of intervention objectives in this phase; devises a plan for monitoring the extent to which those objectives are achieved (Blythe & Tripodi, 1989, p. 16-17).

3. Implementation

   a. Components: Plans for intervention are followed; social worker determines the extent to which conditions are sufficient for implemen-

tation; social worker determines if the procedures specified in the last phase can be implemented and if the client can be involved in the intervention specified; social worker locates facilitators and barriers to implementation (i.e. social worker attempts to make intervention operative and then monitors its feasibility); plan for monitoring client progress toward the objectives is implemented at this point (Blythe & Tripodi, 1989, p. 17).

4. Evaluation/Termination and Follow-Up

a. Components: Termination of an intervention may occur when all of the objectives related to that intervention are realized, or when it is decided that the intervention cannot be implemented successfully, or when the intervention has been successfully implemented but no progress achieved (sometimes termination is unplanned--eg. death of client); after interventions are terminated follow-up observations occur to determine whether progress continues to be maintained with respect to the objectives. Follow up can occur in 3 ways: (1) as planned follow-up at designated time periods, (2) as the frequency of intervention sessions are diminished over time; and (3) when one objective has been attained with one intervention while one or more interventions are still operative for one or more other objectives with that same client (Blythe & Tripodi, 1989, p. 19).

B. Policy, Program, or Organization Research & Program Development

1. Program Initiation

a. Defn: Necessary resources (material, social and technological) are secured; directors determine a need for the program; specify the objectives and appropriate technologies for reaching the objectives and identify a target client population of individuals or organizations; and establish criteria; spell out staff functions, personnel policies and practices, etc. (Tripodi, Fellin & Epstein, 1978, pp. 26-27).

2. Program Contact

   a. Defn: Contact made with potential program beneficiaries; directors concerned with physical, material and social factors that prevent or facilitate program contact; screening out of individuals, groups or organizations that are defined as ineligible for program benefits (Tripodi, Fellin & Epstein, 1978, pp. 28-29).

3. Program Implementation or Monitoring

   a. Defn: program fully engages its clients, gives service and/or applies a change technology; "purpose of [this stage] is synonymous with the ultimate goals of the program;... evaluations of program outcomes can be undertaken; questions about the unanticipated positive and negative consequences of program interventions can also be answered; the relative efficacy and efficiency of the program's various strategies can be evaluated (Tripodi, Fellin & Epstein, 1978, p. 32)."

4. Stabilization

   a. Defn: "'The point at which a program achieves a degree of autonomy from its external environment...according to Patti (1978, p. 280). Autonomy refers to the extent to which a program possesses a distinctive area of competence, a clearly demarcated clientele or membership, and an undisputed jurisdiction over a function, service, goal, issue or cause...Autonomy gives an organization a reasonably stable claim to resources and thus places it in a more favorable position to compete for these resources)" (Bielawski & Epstein, 1984, p. 17). Continued funding tends to be assumed, program directors are concerned with maintaining the program while also avoiding the dysfunctions that can undermine these capabilities (eg. staff resistance to needed changes, focus on organizational maintenance vs. service needs, widening gap between organizational policies and program needs. Administrator must systematically collect and analyze data from various aspects of program's environment. Interest groups are involved at this stage and can resist and/or advocate for changes (Bielawski & Epstein 1984, p.17).

II. Types of information

A. Direct Practice
   1. Quantitative
      a. Primary Data Collection
         i. direct structured observation
         ii. ex post facto checklists and rating scales
         iii. questionnaires
         iv. self-monitoring reports
         v. contrived situations or simulations
         vi. routine records
         vii. unobtrusive methods
         viii. tests

   2. Qualitative
      (Assumes people experience and interpret reality differently)

      a. Direct non-structured observation
      b. Interviews

B. Policy, Program or Organization Research & Program Development

   1. At the Program Initiation and Contact Stages:
      a. Needs surveys or questionnaires
      b. Research interview
      c. Observation research

   2. At the Program Implementation or Monitoring Stages
      a Interviews
      b. Observations
      c. Forms
      d. Sampling

   3. At the Program Stabilization Stage
      a. Interviews
      b. Observations
      c. Sampling
         i. Clients
         ii. Significant Others
         iii. Groups
         iv. Agencies
         v. Community
         vi. Organizations

III. Sources of information

A. Published literature
B. Available Information (MIS, process reports)
C. Interviews (individuals or groups)
    1. Standardized
        a. structured
        b. open-ended
    2. Unstandardized
        a. non-structured
D. Questionnaires
    1. Closed-ended
    2. Open-ended
    3. Mixed
E. Observation
    1. Structured
    2. Unstructured
F. Practice-wisdom gathering

IV. Key research concepts
(See glossary for definitions)

A. Baseline
B. Causality
C. Dependent variable
D. Design
    1. Control group
    2. Experiment
    3. Quasi-experiment
    4. Representativeness
    5. Sampling
    6. Multiple-data sources
    7. Multiple-method
    8. Triangulation
E. Empirical
F. Generalizability
G. Hypothesis
H. Independent variable
I. Multi-causality
J. Outcome
K. Reliability
L. Type I & Type II errors
M. Validity
N. Variable

GLOSSARY OF RESEARCH TERMS[1]

Baseline--A series of measurements of a client/programmatic condition prior to treatment/intervention that is used as a basis for comparison with the client's/program's condition after treatment is implemented.*

Causality--the situation where an independent variable is the factor--or one of several factors--that produces variation in a dependent variable.* (i.e. April showers bring May flowers--the rain in April results in the flowers in May).

Control Group--the subjects in an experiment who are not exposed to the experimental stimulus.*

Dependant Variable--the passive variable in a relationship or the one that is affected by an independent variable.*

Design--refers to the logical structure of a research process.*

Empirical--subject to verification through observable events of either a qualitative or quantitative nature.

Experiment--a method of observation in which the value of one or more independent variables is changed in order to assess its causal effect on one or more dependent variables.*

Formative Evaluation Research--in this type of research the researcher is continually making adjustments to the study based on information gained throughout the study. The results of this research can not be generalized beyond the scope of the program being evaluated.

Generalizability--the extent to which the results of a study can be applied to other settings and populations.+

Hypothesis--a causal statement providing the framework for a research or evaluation study.+ Testable statements of presumed relationships between two or more concepts.*

Independent Variable--the presumed active or causal variable in a relationship.* Variables under the control of the researcher, which can be manipulated to determine their effect on intervention outcomes.+

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[1]An "*" indicates definitions quoted from Monette, Sullivan & DeJong's Applied Social Research: Tool for the Human Services. An "+" indicates definitions quoted from Weiss & Jacobs's Evaluating Family Programs.

Intervening Variable--factors that intervene/intercede in the simple cause-and-effect relationship between the research program's independent and dependent variables.[+]

Multi-Causality--when more than one factor is the cause of only one effect.

Multiple-Data Sources--the use of more than one source of data to test a hypothesis. The method of using multiple data sources is also referred to as "triangulation."

Multiple-Method Research--use of qualitative and quantitative research methods and data sources to test a hypothesis.

Outcome Evaluation/Measures/Variables--evaluation to assess the impact of a program or intervention on the participants or the impact of changes in an program/organization on the program, its participants or the organization itself. An outcome variable is a specific characteristic, trait, or behavior that is expected to change because of a program or treatment intervention; an outcome measure is an instrument or format by which the outcome variable is measured.[+]

Quasi-Experimental Design--research designs that approximate experimental control in nonexperimental settings.[*] A research design using a comparison group or comparative data to determine whether the participants in a program or a program itself have gained more than they might have through other interventions or on their own. Comparison groups are not created by random assignment; thus this design is open to more threats to internal validity than is an experimental design, but it is often more feasible to carry out in existing human service.[+] These designs are usually employ formative evaluation methods.

Reliability--the ability of a measure to yield consistent results each time it is applied.[*] There are several ways to test reliability:

> Test-Retest Reliability--determined by giving the same questionnaire two or three times over a short period to the same individuals.[+]
>
> Interrater Reliability--two or more researchers using the same research instrument to measure the same subject(s) or program at a particular point in time.

Intrarater Reliability--when the same researcher uses the same research instrument to measure the same subject(s) or program at several points in time.

Calculations of reliability involve an analysis of the correlations of scores resulting in a reliability coefficient.[+]"

Representativeness--the degree to which a sample population accurately reflects the distribution of relevant variables in the target population.[*]

Sampling--process of obtaining what segment of the overall population will actually be studied.

Nonprobability Sampling-- a technique in which researchers use their judgment and prior knowledge to choose people for the sample who would best serve the purposes of the study.[*]

Probability Sampling--a form of sampling in which each individual has an equal chance of being selected for study. This is also referred to as random sampling/assignment or randomization. This method of sampling assures that the initial differences (i.e. prior to any intervention) among treatment/intervention groups, and between treatment/intervention and control groups, are attributable to chance variations and not to systematic bias or differences between groups. It can pose ethical problems if persons needing services are designated as "controls."[*]

Triangulation--use of more than one data source in research. Triangulation is used in quasi-experimental research to compensate for the lack of a control group.

Type I Error--An error in interpreting the results of a study so that differences are thought to be significant when in fact they are not. A Type I errors occurs when, despite 95% certainty that something has been found, the truth is that the results occurred by changes (i.e. the 5% chance of error has occurred).[+]

Type II Error--An error in interpreting the results of a study so that differences which are significant are not thought of as significant or meaningful. A Type II error occurs when the percentage of certainty required for significance is increased, making it difficulty to detect a real difference that may be occurring. When analyzing data, researchers must balance the probability of Type II error against the probability of Type I error when choosing levels of significance.[+]

Validity--the degree to which a measure or indicator accurately reflects the conceptual meaning of a variable.* The extent to which a finding is well-grounded and justified.+

1. Concurrent Validity--a type of validity assessment in which the results of a newly developed measure are correlated with results of an existing measure.*

2. Construct Validity--an approach to establishing the validity of measures by relating the measure to a broader theoretical framework.+

3. Content/Face Validity--An approach to establishing the validity of measures by assessing the logical relationship between the proposed measure and the conceptual definition of the variable.* This occurs when there is an obvious, logical connection between the method of measurement and what is purportedly measured.+

4. Criterion Validity--A technique for establishing the validity of measures that involves demonstrating a statistical correlation between the measure and some other standard.*

5. External Validity--is the extent to which inferences can be made from a research process to a comparable client population, program or setting (Epstein & Tripodi, 1977, p. 117).

6. Internal Validity--is the extent to which it can be inferred that: (a) a practice or program intervention does affect particular outcomes, (b) evaluation instruments do accurately describe and measure interventions and outcomes, and (c) the evaluation process itself does not influence practice or program outcomes (Epstein & Tripodi, 1977, p. 117).

7. Predictive Validity--A type of validity assessment wherein scores on a variable are statistically correlated with a future expression of the same variable.+

8. Threats to Internal Validity

    a. Contemporary history--unanticipated events

    b. Maturation--during course of study clients might change as a function of time, developmental growth, fatigue, etc.

c. Initial Measurement Effects--process of measurement itself might affect client outcomes

d. Instrumentation--unreliability over time due to lack of standardization of the measure

e. Statistical regression--the tendency of research groups selected for intervention on the basis of extreme scores on some index of need to "naturally" regress to a more average score in subsequent testing regardless of the effects of program interventions

f. Selection--differences between experimental and control groups, or among groups receiving different kinds of interventions, can yield misleading findings

g. Subject mortality--certain types of subjects may drop out of the program/practice in disproportionate numbers creating misleading findings

h. Interaction effects--combined effects of any and all of the above factors may be mistaken for the effects of program interventions (Epstein & Tripodi, 1977, p. 117).

Variable--a single dimension which is measured along a continuum.

Self-Administered Questionnaire for Faculty

In your work with clients (individuals, families, groups, communities, organizations) evaluate how proficient you feel you are with respect to the following items: (check applicable box)

	Very Unskilled (1)	Unskilled (2)	Neither Unskilled Nor Skilled (3)	Skilled (4)	Very Skilled (5)
Ability to specify treatment/intervention goals					
Ability to operationalize target problems					
Ability to involve clients/agency staff in setting goals					
Ability to describe goals in measurable terms					
Ability to write treatment/ intervention goals in notes					
Ability to operationalize intervention components					
Ability to describe intervention techniques					
Ability to monitor client/ program change over time					
Ability to have client/agency staff self-monitor progress					
Ability to use rating form to measure change					
Ability to use standardized questionnaires					
Ability to use graphs to measure change					
Ability to use statistical techniques to evaluate change					

Now please rate how frequently you engage in these same tasks.

	Very Infre-quently (1)	Infre-quently (2)	Neither Frequently Nor Infre-quently (3)	Frequently (4)	Very Frequently (5)
I specify treatment/ intervention goals					
I operationalize target problems					
I involve cli-ent/agency staff in setting goals					
I describe goals in measurable terms					
I write treatment/ intervention goals in notes					
I operationalize in-tervention components					
I describe interven-tion techniques					
I monitor cli-ent/program change over time					
I have client/agency staff self-monitor progress					
I use rating form to measure change					
I use standardized questionnaires					
I use graphs to measure change					
I use statistical techniques to evaluate change					

APPENDIX 3--MEASUREMENT INSTRUMENT

STUDENT EVALUATION INSTRUMENT

Study Description

I am a doctoral student at Hunter interested in studying social work students' current level of use, familiarity with and views about research. I would like to take this opportunity to request your participation in a research project I am undertaking as part of my studies.

This project involves asking you questions about your background characteristics and your experience in research including your thoughts and feelings about research, your research skills, the frequency with which you perform research tasks and your views about clinical social work practice.

Your participation involves completing a questionnaire. The completion of this questionnaire will take about 30-40 minutes.

This questionnaire is **ANONYMOUS**. Do not write your name or student identification number on it. Participation in this study is entirely voluntary.

Thank you for your attention and cooperation.

Student Demographic Information

1. What is your major method?

   1. Casework
   2. Group work
   3. Community Organization
   4. Administration
   5. Research

2. What is your area of concentration?

   1. Family/Youth/Adult Development
   2. Education and Community Development
   3. World of Work
   4. Social Health
   5. Protection and Social Justice

4. What was your undergraduate major? Please specify.

   _____.

5. Using a 4 point scale, please state your undergraduate grade point average.

   _____.

6. How many years of paid social work experience do you have? Enter "0" if none.

   _____ years

7. How many undergraduate and/or graduate research courses have you taken prior to entering Hunter College School of Social Work?

   ___ undergraduate courses ___ graduate courses

8. Have you ever participated in the conduct of a research study?

   _____ Yes _____ No

9. Gender

   1. Male 2. Female

11. Age

    _____ years.

12. Ethnicity

    1. White
    2. African-American
    3. Latino
    4. Asian
    5. Native American
    6. Other (specify)_____

FEELINGS ABOUT RESEARCH

There follows a set of fourteen adjectives that describe various feelings a person may experience. Beside each feeling adjective is a series of numbers from 1 to 9. The numbers represent the several degrees to which a person may experience that feeling: "1" means "not at all"; "9" means "to the greatest extent possible"; the numbers in between represent grades intermediate/moderate levels of the feeling.

Please think about taking the research sequence required courses of the masters program. Concentrate especially on the experience that you anticipate that you will have in mastering and understanding the research content during the two semesters of these courses. Please think about this for a few moments.

Now, please report the extent to which you experience each of the following feelings as you think about the prospects of taking these research courses. For each of the feelings, circle a number that describes the degree to which you experience that feeling remembering that: "1" means "not at all" and "9" means "to the greatest extent possible".

	Not at all				Moderate				To the greatest extent possible
JITTERY	1	2	3	4	5	6	7	8	9
COMFORTABLE	1	2	3	4	5	6	7	8	9
SECURE	1	2	3	4	5	6	7	8	9
UPSET	1	2	3	4	5	6	7	8	9
WORRIED	1	2	3	4	5	6	7	8	9
PLEASURABLE	1	2	3	4	5	6	7	8	9
NERVOUS	1	2	3	4	5	6	7	8	9
INADEQUATE	1	2	3	4	5	6	7	8	9
CALM	1	2	3	4	5	6	7	8	9
AT EASE	1	2	3	4	5	6	7	8	9
RELAXED	1	2	3	4	5	6	7	8	9
FRIGHTENED	1	2	3	4	5	6	7	8	9
SELF-CONFIDENT	1	2	3	4	5	6	7	8	9
TENSE	1	2	3	4	5	6	7	8	9

CLINICAL ATTITUDES ASSESSMENT

Now please rate the extent to which you disagree or agree with the following statements.
(Please check appropriate box)

	STRONGLY DISAGREE (1)	DISAGREE (2)	NEITHER DISAGREE NOR AGREE (3)	AGREE (4)	STRONGLY AGREE (5)
Therapeutic change for clients often occurs too long after contact with the clinician to measure its occurrence.					
The client benefits by talking to a clinician, even if behavioral change is not apparent.					
The important results of social work intervention are often not known for many years.					
The quality of the therapeutic relationship is the major factor that determines clinical effectiveness.					
A clinician's intuitive sense of a client's progress is less valuable than an objective measure.					
The true quality of a therapeutic relationship cannot be measured.					
Time and experience are more important than education and technique in becoming an effective clinician.					
Social work should be more art than science.					
Clinical research cannot capture the essential elements of the therapeutic relationship.					
Therapeutic processes do not lend themselves to quantification.					
Clinical research can generally document the important aspects of therapeutic change.					

RESEARCH SKILLS SELF-ASSESSMENT

In your work with clients (individuals, families, groups, communities, organizations) evaluate how skilled you feel you are with respect to the following:
(Please check appropriate box)

	Very Un-skilled (1)	Un-skilled (2)	Neither Un-skilled Nor Skilled (3)	Skilled (4)	Very Skilled (5)
Ability to specify intervention goals					
Ability to operationalize target problems					
Ability to involve client/program staff in setting goals					
Ability to describe goals in measurable terms					
Ability to write intervention goals in notes					
Ability to operationalize intervention components					
Ability to describe intervention techniques					
Ability to monitor client program change over time					
Ability to have client/agency staff self-monitor progress					
Ability to use rating form to measure change					
Ability to use standardized questionnaires					
Ability to use graphs to measure change					
Ability to use statistical techniques to evaluate change					

RESEARCH TASKS FREQUENCY SELF-ASSESSMENT

Now please rate how frequently you engage in these same tasks. (Please check appropriate box)

	Very In-frequently (1)	In-frequently (2)	Neither Frequently Nor In-frequently (3)	Frequently (4)	Very Fre-quently (5)
I specify intervention goals					
I operationalize target problems					
I involve client/agency staff in setting goals					
I describe goals in measurable terms					
I write intervention goals in notes					
I operationalize intervention components					
I describe intervention techniques					
I monitor client/program change over time					
I have client/agency staff self-monitor progress					
I use rating form to measure change					
I use standardized questionnaires					
I use graphs to measure change					
I use statistical techniques to evaluate change					

Please state the extent to which you disagree or agree with the following statements and then answer the question following each statement. Strongly Disagree, Disagree, Neither Agree Nor Disagree, Agree, Strongly Agree) (Circle appropriate number):

The research concept of "baseline" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree give an example of how research concept of "baseline" can be used in a practice situation. If you disagree state why.

_____
_____
_____
_____

The research concept of "causality" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree give an example of how the research concept of "causality" can be used in a practice situation. If you disagree state why.

_____
_____
_____
_____

The research concept of a "variable" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree give an example of how the research concept of a "variable" can be used in a practice situation. If you disagree state why.

The research concept of "outcome" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree give an example of how the research concept of "outcome" can be used in a practice situation. If you disagree state why.

The research concept of "multiple-data sources" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of "multiple-data sources" can be used in a practice situation. If you disagree, state why.

The research concept of "representativeness" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of "representativeness" can be used in a practice situation. If you disagree, state why.

_____
_____
_____
_____

The research concept of "generalizability" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of "generalizability" can be used in a practice situation. If you disagree, state why.

_____
_____
_____
_____

The research concept of a "hypothesis" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of a "hypothesis" can be used in a practice situation. If you disagree, state why.

_____
_____
_____
_____

The research concept of "reliability" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of "reliability" can be used in a practice situation. If you disagree, state why.

_____
_____
_____
_____

The research concept of "validity" can be applied to social work practice with clients, groups and/or organizations

Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)

If you agree, give an example of how the research concept of "validity" can be used in a practice situation. If you disagree, state why.

_____
_____
_____
_____

Please state your overall agreement or disagreement with the following statement:

Research concepts can be applied to social work practice with clients, groups and/or organizations.

If you agreed state why. If you disagreed state why.

_____
_____
_____
_____

Any additional comments?

Thank you for your time and cooperation.

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