Steps in Collaborative Research Between Clinicians and Faculty

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This article suggests a seven-step model for faculty–clinician collaborative research. The steps were developed on the basis of the authors' experiences and anchored in theories of human and organizational behavior. For each step, an aim and outcome are delineated as well as a description of how each stage can be enacted to produce publishable research. An example is used to illustrate how the model has functioned to facilitate the research process. The model lends itself to a full spectrum of qualitative and quantitative designs that are appropriate in clinical occupational therapy.

The implementation of clinical research requires two ingredients: a clinical setting and persons who are committed to and knowledgeable about the research process. These two ingredients, however, are rarely found together. Clinicians have access to the clinical setting and to patients but may be hesitant to involve themselves in research due to the time constraints of their jobs, the focus of their work on treatment, or their perceived lack of experience with research methods.

Educators, on the other hand, who should conduct research to gain promotion, merit, and tenure (Rider, 1987; Wilson, 1979), may possess the expertise and experience in research methods but often lack access to the clinical setting. Collaboration between faculty and clinicians is therefore one vehicle through which clinical research can be accomplished, because each party possesses what the other lacks.

Even with the presence of the two ingredients necessary for clinical research, collaborative clinical investigations may still be marred by (a) each party's lack of understanding of the other party's job constraints and responsibilities and (b) the absence of formal a priori negotiation of research functions based on each investigator's interest, time, and expertise.

The Colleague Model of Collaborative Investigation, which is presented in this paper, provides a framework collaborators can use to prevent obstacles from emerging, identify potential barriers, and employ strategies to facilitate the completion of clinical research. This model comprises seven steps that guide clinical researchers through the collaborative process (see Table 1). The Colleague Model of Collaborative Investigation has been used successfully in six projects within the past 2 years.

The use of this model is illustrated through a discussion of a recent pilot study by DePoy, Gallagher, Calhoun, and Archer (1989) that explored the extent to which altruistic activity contributed to self-esteem and internal locus of control in a population of elderly patients who were hospitalized for clinical depression.

Step 1: Identifying A Common Research Interest

Occupational therapy practitioners and educators have questions about practice. Yerxa (1979) called this inquisitiveness a "clinical irritation" (p. 26) and indicated that it is the initial step in the research process.

In the first step of clinical research, the investigator's aim is to find a colleague who not only has an analogous clinical irritation, but also a complementary ideology of occupational therapy practice and the desire and resources to soothe the irritation through...
Table 1 The Colleague Model of Collaborative Investigation

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Definition</th>
<th>Aim</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifying a common research interest</td>
<td>To find a research partner</td>
<td>The beginning of a collaborative research relationship</td>
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<tr>
<td>2</td>
<td>Role taking</td>
<td>To enhance the collaborative relationship</td>
<td>An understanding of the partner’s perspective</td>
</tr>
<tr>
<td>3</td>
<td>Planning and design</td>
<td>To plan clinical research to soothe clinical irritations</td>
<td>A carefully developed, systematic research plan</td>
</tr>
<tr>
<td>4</td>
<td>Negotiation</td>
<td>To meet individual needs and expectations and to use the skills of each collaborator efficiently</td>
<td>A detailed plan of the duties and payoffs for each collaborator</td>
</tr>
<tr>
<td>5</td>
<td>Implementation</td>
<td>To carry out the research plan, collect the data, and modify the plan to meet unforeseen obstacles</td>
<td>A completed data set for analysis</td>
</tr>
<tr>
<td>6</td>
<td>Completion</td>
<td>To analyze the data and create a format for dissemination</td>
<td>A publishable article, formal presentation of the findings, or both</td>
</tr>
<tr>
<td>7</td>
<td>Evaluation</td>
<td>To assess the project for strengths and weaknesses and to determine future research</td>
<td>A stronger collaborative research relationship</td>
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research. The faculty researcher may easily identify a clinical colleague who has similar interests. Any person specializing in the treatment of the population or area of interest is a potential colleague. In the DePoy et al. (1989) pilot study, the student, Archer, discussed a research idea with the faculty member, DePoy. After DePoy refined the idea into a potential research question, she contacted the clinician, Gallagher, who worked in a clinical setting where the study could be implemented. Additionally, DePoy was aware of Gallagher’s research experience, compatible philosophical view of occupational therapy, and desire to conduct research. DePoy, Gallagher, and Archer discussed the project further.

Although the clinician may have more difficulty locating a faculty colleague as a research partner, various methods can be used. One such method is for the clinician to contact the educational institution directly to explore the research interests and skills of the faculty. If no faculty member has the desired expertise, the faculty can probably refer the clinician to someone either inside or outside the educational institution who is currently conducting or planning research in the clinician’s field of interest. A second method to search for a research partner is through current publications. A person’s publication record not only demonstrates that person’s interest area, but also indicates his or her ideology, research skills, and ability to communicate findings in writing. A third method by which a clinician can find a potential research partner is by contacting the person designated as research liaison in the state occupational therapy organization.

To ascertain common interests, the interested parties should discuss areas of clinical interest, ideology, and preferred method of investigation. For example, in the area of human occupation, multiple research methods are useful, depending on the nature of the questions. Because of the nature of clinical research and the early level of theory development in occupational therapy, naturalistic studies are often useful for initial descriptions of phenomena of interest. These research methods should be strongly considered when research questions and previous theory development lend themselves to descriptive strategies.

In the DePoy et al. (1989) pilot study, the collaborators agreed that the methodological approach would integrate qualitative and quantitative designs. They also agreed to fit the methodology with the daily routine at the institution by planning experimental and control conditions within the already scheduled occupational therapy program.

If the potential collaborators perceive their research relationship as productive, they are ready for Step 2.

Step 2: Role Taking

Because of the job norm differences between clinical practice and academia, Step 2 is perhaps most fundamental to the establishment of a solid collaborative research relationship. In this step, the collaborators engage in mature role-taking behavior (Selman, cited in Wolman, 1980).

Selman (Wolman, 1980) defined role taking as cognitive growth that leads to the individual’s ability to understand the perspective, thoughts, and feelings of others. The mature role taker is able not only to
articulate his or her understanding of the other person but also to adjust behavior to meet the needs of others in a mutually satisfactory manner. In the collaborative process, this step is crucial, particularly when each of the collaborators approaches the research project with different needs, desires, expectations, and external demands.

Each collaborator must identify the following:

1. His or her purpose for conducting the research.
2. Skills he or she possesses.
3. Skills he or she expects the other party to contribute.
4. Personal time constraints and commitments to the project.
5. Which part of the project he or she is willing to complete.
6. Areas of weakness that may interfere with the completion of the project.
7. Feelings about the research process in general.
8. Expected outcomes, particularly for publication and dissemination.
9. Expected use of the results.

A thorough and honest dialogue clarifies the expectations, areas of potential contribution, and expertise of each collaborator so that Step 3 may begin on sound footing. In addition, with the perspectives of the research team clarified, the need for additional resource persons, such as statisticians, data collectors, and consultants, can be evaluated and met.

The collaborators in the DePoy et al. (1989) pilot study talked extensively about their expectations of each other. Although interested in the topic, Archer indicated that she did not have the time or expertise in research to direct the project. She wished to participate with direction from the faculty member and the clinician. Gallagher indicated that his purpose in conducting research was threefold. He was interested in the question, he wished to improve the scholarly reputation of his department, and he wanted to set an example to enhance acceptance of clinical research as a norm for clinical practice. Although Gallagher was knowledgeable about and experienced in research methodology, his job constraints prevented him from taking the primary responsibility for design and report writing. Gallagher, therefore, participated in discussing the design of the project, directing data collection, interpreting the findings, and editing the manuscript. Gallagher also suggested valuable literature that contributed to the theoretical rationale for the project.

DePoy's purpose was to investigate productivity in adulthood and aging. Her commitment to clinical occupational therapy research could be actualized through this project. DePoy agreed to be primarily responsible for articulating and refining the research design, analyzing the data, and writing the report.

**Step 3: Planning and Design**

Step 3 involves the design and planning phase of the research project. In this step, the collaborators derive the research question and design from a synthesis of their mutual interests, ideologies, skills, and expectations and from consideration of the constraints of the clinical setting. The methodology must be carefully specified during this step so that Step 4 can be accomplished.

The first task in Step 3 is to state a common theoretical approach to occupational therapy treatment that will underpin the research question and design. Once a philosophical foundation has been agreed upon, the research question is formulated. The initial design of the research project can then be founded on the theoretical framework, the research question, and the literature available to support the study. In the DePoy et al. (1989) pilot study, the collaborators agreed that occupation was the core of occupational therapy practice and that an examination of normative occupations in adulthood and aging would constitute the theoretical framework of the research. The integration of current readings on aging with Erikson's (1950) stages of development gave rise to the themes of altruism and giving as norms of adult productive activity. From this theoretical support, the following research questions were derived:

1. What is the effect of altruistic activity on the self-esteem and locus of control of elderly depressed patients?
2. What, if any, clinical changes were observed when patients engaged in altruistic activity?

A quasi-experimental design, enhanced with qualitative data collection techniques, was then selected. Hence, the outcome of this step was clearly stated research questions and a method by which the question was to be answered.

In addition to focusing on the design of the research project, Step 3 must address practical matters such as the articulation of ideas to institutional research committees and human subject review boards. In the DePoy et al. (1989) pilot study, a date was set for Gallagher to present the project to the institutional research committee for feedback and approval.

By the end of Step 3, a formal research plan, including the literature review, the question, the design, and the process, should be completed.

**Step 4: Negotiation**

Step 4 involves the negotiation phase, in which the collaborators determine each of their parts in the proj-
ect and each of their personal payoffs. The omission of this stage from collaborative research is often responsible for the breakdown of a project because of each investigator's differing norms and expectations (Parham, 1987; Wilson, 1979).

Although the collaborative research process has no formal leadership, the concept of exchange of privilege for expertise fits well in the negotiation phase of this model. In the DePoy et al. (1989) pilot study, the first authorship was granted to DePoy for her contributions in the area of research design, data analysis, and reporting. Gallagher received second authorship for his effort and participation in conceptualizing the project.

The negotiation process is essentially an interactive one in which skills are identified and assessed and privileges and duties are agreed upon to maximize the assets of the research group. Through negotiation, each function of the research process—the mix among skill, time commitment, and payoff—is clarified, and the assignment of research activities and rewards are clearly defined. In other words, during this phase, each collaborator operationalizes his or her commitment, stake in the project, and expected outcome.

In this phase of the planning, creative solutions to time boundaries can be developed. One advantage of a collaborative relationship between faculty and clinicians is that students may be retained as research assistants who can review literature and collect data as part of their education. Both of the student collaborators in the DePoy et al. (1989) pilot study exchanged data collection and literature search activity for authorship. At the end of Step 4, each of the collaborators in the DePoy et al. pilot study had a clear idea of his or her responsibilities and the time frame in which to conduct them. Authorship was also clarified for each participant.

In summary, the product of Step 4 is a concrete research plan, which should include a time line and a scheduled sequence of research activities. With such a plan in place, the research study can be implemented.

**Step 5: Implementation**

In Step 5, the project is initiated according to the plans made during Step 4. Implementation, however, does not always proceed according to plan. Regular communication and evaluation must therefore be considered as essential during the implementation phase. Researchers and research assistants should meet on a regular basis to report their progress and to discuss any unexpected issues that arise. Communication with research committees and human subject review boards must also be planned as a regular activity in Step 5.

During the course of the research project, periodic formal evaluation not only ensures that the research is proceeding as planned, but also identifies methodological flaws and operational difficulties. This type of evaluation is particularly necessary in clinical research due to the limited control that the researchers have over the research environment.

Formal evaluation should include (a) critical analysis of the initial research plan, (b) determination of the congruence of the plan with the limitations of the research environment, (c) identification of the strengths and weaknesses of carrying out the plan, and (d) strategies to strengthen the research project.

With the data from the evaluation, the collaborators are prepared to mediate any difficulties that may interfere with the research project. In addition, formal evaluation may influence the design and implementation of future research. In the DePoy et al. (1989) pilot study, the original quasi-experimental design was precluded by the admission and discharge patterns of the institution. The initial research, which was to be conducted by a comparison of concurrent control and experimental groups on measures of self-esteem and locus of control and on qualitative observations of competence in the assigned activity, was changed to a design in which groups were conducted sequentially over 2 weeks. The new design was selected so that the subjects served as their own controls, thus eliminating the obstacle posed by a small sample. The new plan resulted in the collection of a complete data set for analysis.

**Step 6: Completion**

In this step, the data are analyzed and summarized for presentation or publication. Even if the data analysis and the reporting are the responsibility of only one of the researchers, the interpretation of the results is a collaborative affair and should be discussed and agreed upon by each of the collaborators.

In the DePoy et al. (1989) pilot study, a statistician was consulted. After a final analysis of the data, DePoy and Gallagher discussed the findings and developed conclusions. DePoy then wrote the research report, which was reviewed by all of the collaborators. Their comments were incorporated into the final report, which was subsequently published.

**Step 7: Evaluation**

In this step, the collaborators review their research findings, their methodology, and their working relationship for the purpose of improving future research. This step also adds to the collective knowledge of occupational therapy through a general refinement and improvement of collaborative research. During Step 7, alternative research methodologies, data col-
lection strategies, and operating procedures can emerge. At this final step of the Colleague Model of Collaborative Investigation, the collaborators decide whether to continue, modify, or dissolve the research partnership. The DePoy et al. (1989) pilot study has been expanded to a larger sample and to more diverse populations as a result of Step 7.

Discussion

A model of collaborative research has implications beyond the facilitation of research. The model encourages occupational therapy researchers to explore all of the investigative methods available to answer complex questions about human occupation and health. Stimulation of more diverse types of clinical research can assist occupational therapy's development of a unique epistemology while still addressing the need for accountability in a competitive health care market.

The conduct of collaborative clinical research furthers the occupational therapy profession by enhancing its place as a professional discipline within the academic arena. As discussed by educators (Ottenbacher, 1987; Parham, 1987; Rider, 1987; Yerxa, 1983) occupational therapy faculty must publish research to conform to the norms of scholarship within the university community.

Finally, collaborative research gives the seasoned clinician a professional role into which he or she may grow. As indicated by Johnson (1973), attrition in the field is in large part a function of the linearity of the field. In other words, as a person grows more competent in treating patients, clinical positions do not offer more challenging expectations. Therefore, excellent clinicians often turn to administration or leave the field entirely. As clinical research becomes more the norm than the exception, however, clinicians may assume more challenging tasks within the context of clinical practice. Consideration of clinical research as a norm of clinical practice rather than as an ancillary professional activity can expand occupational therapy's knowledge and provide challenges for professionals interested in further clinical stimulation.

References