Clinical Perspective

Research and clinical practice

Forrest G. Umberger (*Georgia State University*)

Janie van Reenen

Noreen Steward (*Georgia State University*)

Suggested Citation

Umberger, F. G., et al. (1990). Research and clinical practice. *International Journal of Orofacial Myology*, 16(2), 5-7.

DOI: <https://doi.org/10.52010/ijom.1990.16.2.3>

This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

The views expressed in this article are those of the authors and do not necessarily reflect the policies or positions of the International Association of Orofacial Myology (IAOM). Identification of specific products, programs, or equipment does not constitute or imply endorsement by the authors or the IAOM. The journal in which this article appears is hosted on [Digital Commons](#), an Elsevier platform.

Research and Clinical Practice

Forrest G. Umberger, Ph.D.

*Associate Professor
Director Communication Disorders
Georgia State University*

Janie van Reenen, M.Ed.

*Private Practice
Norcross, Georgia*

Noreen Steward, Ed.D.

*Assistant Professor
Clinic Coordinator
Georgia State University*

It is not uncommon to come across a clinical practitioner who complains that the research reported in the professional journals does not address their clinical needs. Conversely, a researcher may just as well lament that the clinicians are not putting research findings into practice. Perhaps this conflict has been responsible, in part, for the dichotomy between clinical practice and research that has been discussed in the literature for over 25 years (Hamre, 1972; Jerger, 1963 a&b, 1964; Powers, 1955; Ringel, 1972; and Schultz, Roberts & Yairi, 1972). Arguing for the separation of research from clinical practice Jerger (1963b), as editor of the *Journal of Speech and Hearing Research*, contended that, "Research in our own field (speech-language-hearing) demands rather firm grounding in electronics, mathematics, physical acoustics, and the methodology of science, in addition to a sound understanding of the speech and hearing processes." (p. 301) In conclusion he emphasized, "...that research is the province of trained researchers, just as diagnosis and therapy are the province of trained clinicians." (p. 301)

Representing the other side of the issue, Wood (1964), one of several research-minded clinical practitioners, responded to Jerger's position with the following:

... It is all right to encourage better research on important problems and better research reports so that the results may be better understood by the readership in our fields. It is not all right to encourage compartmentalization by separating those who do research from those who do clinical practice. Research is not only an activity; it is a state of mind, an attitude. We should encourage people to be research-minded while they are engaged in clinical practice, to make use of collective data, to observe and compare, and to write it up.

Research can be narrow or wide in scope; it can be simple or complex. We need all of it. Some of it will be poorly done, even by trained researchers. We need clinical research as well as "pure research"; and the researcher does not always need a background in electronics and physical acoustics as you suggest. Many of those doing important pieces of research and realizing their lack of background in mathematics and even scientific methodology can and do seek advice about statistics and design from those whose province it is... I suggest that the inquiring mind of the diagnostician and the clinician needs to be kept at work no matter what the limitations of time and setting for researching might be. A great deal of helpful

research has come from very busy clinicians. If some of it proves to be low-rate, it is your editorial prerogative to refuse publication of those pieces you consider unworthy of our Journal," (p. 5)

Acknowledging that compelling arguments exist for both positions, the purpose of this paper is to speak on behalf of clinician-investigations. More specifically the paper will:

1. Provide a rationale for clinicians¹ to become clinician-investigators².
2. Delineate qualifications of a clinician-investigator.
3. Outline the procedures for conducting a clinical investigation.

Rationale for Conducting Clinician-Investigations

An increasing number of professionals acknowledge the need to generate more research and suggest this need be met through the practicing clinician (Hegde 1987, Silverman, 1985, Kent 1983, and Flower 1983). Out of this perceived need has come a number of reasons to support the concept of the clinician-investigator:

1. Applied disciplines generally go through a period during which the scientific data base is still being formed while the need to practice the profession takes precedence. During this period, the profession is dependent on different disciplines—both basic and applied—for a knowledge base.
2. Until a discipline begins to produce its own data base, it will continue to borrow theories and methods that may or may not be appropriate for investigating its subject matter. To generate their own data base, some professions have trained their practitioners to do research.
3. Observations made in the clinic are at least as valid as those made in the laboratory. In fact some would argue that observations made in the clinic are more valid than the artificial environment of the laboratory.
4. Clinical experience may put the clinician in a better position to make the observations necessary to answer questions than an investigator not actively engaged in clinical work.
5. It seems reasonable to assume that as we function as a clinician-investigator we could

¹ For the purpose of simplification the term "clinician" will be used generically to refer to the human service provider (e.g., orthodontist, oral myofunctional therapist, speech-language-pathologist, etc.).

² Clinician-Investigator as used by Silverman (1985) derives from "teacher-investigator" a term used in some colleges and universities to designate the dual interrelated roles of a professor—teaching and research."

improve our effectiveness by developing a more "scientific" approach to clinical decision making. This problem solving approach has several aspects, including: (1) stating goals or objectives clearly; (2) asking questions that are "answerable" and stating hypotheses that are "testable"; and (3) being systematic in making observations to answer questions and test hypotheses;

6. Much of the data obtained from observations during a clinician investigation would provide the clinician with sufficient evidence for accountability.

Qualifications to be a Clinician-Investigator

A common misconception held by many clinicians is that only those individuals trained at the doctoral level are capable of conducting research. While training at the doctoral level is desirable because it is usually in large part research training, it is not a prerequisite. Extensive knowledge of statistics and research methodology, though desirable for those who wish to function as a clinician-investigator, is not essential. If the questions asked by the clinician-investigator require extensive statistical analysis, a consult with persons knowledgeable in statistics and research design may be necessary. Such resources are available at nearby colleges and universities.

In general extensive reading, careful observation, critical analysis of existing research literature, some experience in research, understanding of logic and the scientific process, and critical thinking are all necessary to formulate significant research questions. Silverman (1985) suggested that the clinician-investigator must be able to: (1) formulate "answerable" questions and make the observations necessary to answer them with adequate levels of validity and reliability, (2) relate their answers to existing theories and knowledge, and (3) communicate questions, answers, and relations.

Procedures for Conducting a Clinical Investigation

The kinds of activities that one engages in when providing a treatment program are similar to the procedures one follows when conducting research. From this frame of reference Silverman (1985) defines research as a "process of asking and answering questions that is governed by a set of rules referred to as the scientific method" (p. 41). The following procedural outline by Ringel (1972) can serve as a guideline for asking and answering questions in the research laboratory or clinical setting:

- A. *Diagnostic Procedure* (Definition of Problem)
 1. Is the *disorder* (research problem) clearly stated as a single issue or a series of subordinate but related *dysfunctions* (problems)?
 2. Is the *disorder* (research problem) isolated and analyzed logically: use of proper tests?
 3. Are there adequate definitions of significant terms used in defining the problem?

4. Is adequate use made of previous observations and *test results* (previous research)?

- B. *Treatment Rationale* (The Working Hypothesis)

1. Is the *treatment* (hypothesis) clearly stated and pertinent to the solution of the problem?
 - a. Does the formulation of the *therapy* (hypothesis) reflect an adequate understanding of the problem?
 - b. Does the general approach to development of *therapy* (hypothesis) reflect an objective attitude?
2. Is the presentation of the method and design of the *therapeutic program* (research) such that it can be duplicated and continued by other *clinicians* (researchers)?

- C. *Evaluation of Progress* (The Analysis)

1. Is there adequate proof of the validity of your *therapeutic approach* (the data)?
2. Are the methods of evaluating *therapeutic gains* (data) adequate and appropriate?
3. Are the inferences drawn from the *therapy evaluation* (data analysis) clear, sound, and appropriately limited?

- D. *The Result* (Conclusions)

1. Does the conclusion provide new insights, establish the validity of the *therapeutic* (research) procedures, or verify the conclusions of previous *clinicians* (researchers)?
2. Does the conclusion bear a reasonable relationship to other known facts?
3. Does the conclusion point toward further *clinical practice* (research) development?

- E. *Case Report* (Publication)

Is the *patient* (research) described in a fashion such that other professionals can evaluate your progress and continue the *treatment* (research)? (p. 352-353)

Conclusions

Whether the clinician chooses to function as a clinician-investigator or not, consistent application of these principles will improve professional services by helping to develop a more "scientific" approach to clinical decision making.

On a grander scale, the profession of oral facial myology (or any profession) must come to grips with the degree to which it wants to be in control of its destiny. Kent (1983) put it succinctly in these terms, "A profession that provides its own research base is much more in charge of its own destiny than a profession that doesn't." (p. 76) If we (oral facial myologists) rely on others both to achieve the scientific and technological advances and then to apply those advances within our field, we cannot pretend to be a mature and autonomous profession. The choice is ours.

References

- Flower, R.M. (1983). Keynote address: Looking backwards and looking forward: Some views through a four-decade window. In N.S. Rees & T.L. Snopce, (eds.), *Proceedings of the 1983 national conference on undergraduate, graduate, and continuing education*. (pp. 9-15). Washington, DC: ASHA Reports no. 13.

- Hamre, C.E. (1972). Research and clinical practice: A unifying model. *Asha*, 14, 542-545.
- Hegde, M.N. (1987). *Clinical Research in Communicative Disorders*, Boston: College-Hill Press, 3-17.
- Jerger, J. (1964). More on "Who is qualified to do research." *Journal of Speech and Hearing Research*, 7, 4-6.
- Jerger, J. (1963a). Viewpoint. *Journal of Speech and Hearing Research*, 6, 203-206.
- Jerger, J. (1963b). Who is qualified to do research? *Journal of Speech and Hearing Research*, 6, 301.
- Kent, R.D. (1983). Issue IX: Role of research: How can we improve the role of research and educate speech-language pathologists and audiologists to be competent users of research? In N.S. Rees & T.L. Snipe (eds.), *Proceedings of the 1983 national conference on undergraduate, graduate, and continuing education* (pp. 76-86). Washington, DC: ASHA Reports no. 13.
- Powers, M.H., (1955). The dichotomy in our profession. *Journal of Speech and Hearing Disorders*, 20, 4-10.
- Ringel, R.L. (1972). The clinician and the researcher: An artificial dichotomy. *Asha*, 14, 351-353.
- Schultz, M.C., Roberts, W.H., and Yairi, E. (1972). The clinician and the researcher: Comments. *Asha*, 14, 539-541.
- Silverman, F.H. (1985). *Research Design and Evaluation in Speech-Language Pathology and Audiology*, 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, 11-22 & 25-42.

Address inquiries to:
 Forrest G. Umberger, Ph.D.
 Department of Special Education
 Georgia State University
 University Plaza
 Atlanta, Georgia 30303