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AUTHOR Dean, Raymond S.
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ABSTRACT

This paper contends that school psychologists often are expected to reconcile, interpret, and evaluate the cognitive and behavioral functioning of children with neurologically related disorders. In this light, it is suggested that students in graduate programs in school psychology could benefit from specialized education and experience in applied neuropsychology. A neuropsychology graduate training model, which capitalizes on the applied psychometric and learning theory emphasis in school psychology training, is offered as an accent to school psychology. The objective of this training is presented as the preparation of psychologists who could apply neuropsychological principles to the understanding of problems which arise as the child interacts with the educational process. The 5-year doctoral training model is presented in outline form. Courses are listed for two semesters per year for the first 4 years, with the fifth year dedicated to an internship and dissertation. A list of neuropsychology elective courses is included. (NRB)

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Integrating Child Neuropsychological Elements
in School Psychology Graduate Training¹

Raymond S. Dean

Ball State University

Department of Educational Psychology

Teachers' College

Muncie, Indiana

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Integrating Child Neuropsychological Elements
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A number of recent surveys indicate that school psychologists are becoming sensitive to the heuristic value of a neuropsychological orientation in the practice of school psychology (Hynd, Quackenbush, & Obrzut, 1980; Ramage, 1979). Of particular interest have been data showing a direct correspondence between cognitive, sensory-motor, personality, school learning, and distinct cortical functions. Although school psychologists are far from a consensus on the part a neuropsychological perspective should play, many authors have argued convincingly in favor of a neuropsychological perspective in school psychology (e.g., Dean, 1982; Hartlage, 1982; Hynd & Obrzut, 1981). This seems reasonable, for the school psychologist is often expected to reconcile, interpret, and evaluate the cognitive and behavioral functioning of children with neurologically related disorders. So too, neuropsychologically based evaluations have also become pivotal in Federal mandates which rely more upon differential diagnosis than behavioral definitions of school problems.

Concomitant with this neuropsychological sensitivity has come interest on the part of school psychologists to expand their role to other applied settings. Indeed, the training and experience of school psychologists would seem to allow a significant contribution in the understanding of individuals outside of the school setting (Dean, 1983).

With the extraordinary growth of neuropsychology and the indictment by some that the majority of neuropsychologists are inadequately trained (e.g., Craie, 1979), the question arises as to what constitutes a reasonable level of training and experience necessary to offer independent neuropsychological

services. This paper offers an overview of graduate training models which have been proposed for the training of neuropsychologists (i.e., Craig, 1979; Dean, 1982,; Golden & Tupperman, 1980; Meier, 1981). The similarities between neuropsychology and school psychology are examined in terms of competencies and training aspects. A neuropsychology graduate training model which capitalizes on the applied psychometric and learning theory emphasis in school psychology training is offered.

Clinical neuropsychology owes many of its methods to roots in experimental psychology, behavioral neurology, and applied psychometric theory. Unlike the clinical psychologist, the neuropsychologist is less involved in affecting change and more typically attempts to describe the implications of observed behavior and provides data on which remedial approaches may be based. In light of the applied psychometric and experimental learning emphasis in the training of school psychologists, students in these programs seem quite prepared to benefit from specialized education and experience in applied neuropsychology. The use of the term "school psychologist" here defines an applied psychologist who is concerned with those factors which interact with the educational process, rather than a definition of the psychologist's primary applied setting (Dean, 1982).

An overlap in the training of neuropsychologists and school psychologists is seen in the applied psychometric focus in both fields. This orientation has lent itself more to a diagnostic approach than one of remediation. While this emphasis seems more the result of pressures in the applied setting than theoretical visions of either speciality, the school psychologist in training is ideally placed to profit from training in brain-behavior relationships which may influence cognitive performance in children.

Whether the school psychologist chooses to specialize in neuropsychology or as an accent to the traditional practice of school psychology, knowledge of the basic principles of neuropsychology would seem to offer the psychologist a theoretical structure in which both educational and behavioral data on a child may be related to cortical functioning as an aid in remedial planning (e.g., Dean, 1983).

The field of clinical neuropsychology suffers a number of growing pains indicative of an adolescent speciality with increasing employment possibilities. With fewer than 20 identifiable graduate training programs that offer emphasis in neuropsychology (Golden & Tupperman, 1980), training has in the main been accomplished through post-doctoral training (e.g., continuing education and fellowships). Although this situation should continue for the next 10 years, the number of graduate training programs offering neuropsychological specialization are growing rapidly (Golden & Tupperman, 1980).

While neuropsychological training approaches have been discussed at some length (e.g., Craig, 1979; Hynd, 1981; Meier, 1981), there is far from a consensus as to the most heuristic model. Meier (1981) offers four rather distinct models in the training of neuropsychologists which delineate scientific and professional aspects of training. Although each of the following models have attributes which recommend it, none is without distinct disadvantages (see Meier, 1981). The doctoral model which follows examines the interface of a neuropsychological emphasis in the speciality of school psychology. This model is seen as an accent to school psychology rather than the formation of a unique specialization within the field. The objective of this training would be the preparation of psychologists who could apply neuropsychological principles as an aid in the understanding of problems which arise as the individual interacts with the educational process. Specific

neuroscience courses, experiences, and school psychology seminars offer the student an integrated understanding of neurological bases which may influence the child. Specific courses which are proposed fulfill psychological foundation requirements and school psychology specialty guidelines (APA, 1978) while allowing a neuropsychological emphasis in training. With the necessity for supervised practice in both traditional school psychology and child neuropsychology, the curriculum described emphasizes a five-year commitment.

**Model Doctoral Program in School Psychology
With a Neuropsychological Emphasis**

First Year

<u>Hours</u>	<u>First Semester</u>
3	Developmental Psychology (Child--Adolescent)
3	Human Learning/Memory
3	Measurement Theory--Psychometrics
3	Introduction to Theory/Practice of School Psychology (Scientific/Professional Ethics and Standards)
1	Seminar in Neuropsychology

<u>Hours</u>	<u>Second Semester</u>
3	Functional Neuroanatomy
3	Statistics (Descriptive--Inferential)
3	Psychopathology
3	Neuropsychology/Psychophysiology Elective
1	Seminar in Neuropsychology

Second Year

<u>Hours</u>	<u>First Semester</u>
3	General Education (Curriculum, Reading, etc.)
3	Research Methods/Advance Statistics Elective
3	Individual Assessment--Cognitive (with practicum)
3	Learning Disorders (Assessment & Intervention)
1	Seminar in Neuropsychology

HoursSecond Semester

- 3 Special Education Methods/Rehabilitation Exceptionality
(Elective)
- 3 Individual Assessment--Personality (with practicum)
- 3 Behavior Therapy/Psychotherapy (with practicum)
- 3 Reading Elective (Reading Education, Diagnosis, Remediation, etc.)
- 1 Seminar in Neuropsychology

Third YearHoursFirst Semester

- 3 Psychological Consultation (Theory, Intervention)
- 3 Neuropsychological Assessment (Theory, Practicum)
- 3 Field Work/Practicum (School Placement)
- 3 Psychotherapy/Cognitive Therapy
- 1 Seminar in Neuropsychology

HoursSecond Semester

- 3 Field Work/Practicum (School Placement)
- 3 Elective in Learning/Memory
- 3 Clinical Neurology/Neuropathology/Advanced Neuropsychology
- 3 Classroom Consultation (Conjunction with Fieldwork)
- 1 Seminar in Neuropsychology

Fourth YearHoursFirst Semester

3	Field Work/Practicum (Pediatric/Neuropsychology/School)
3	Individual Differences Elective
3	Neuropsychology Elective
3	Research Elective
1	Seminar in Neuropsychology

HoursSecond Semester

3	Field Work/Practicum (Pediatric/Neuropsychology/School)
3	Professional Seminar-School Psychology
3	Social Psychology Elective
3	Research Elective
1	Seminar in Neuropsychology

Fifth Year

Supervised Internship

Dissertation

Neuropsychology Electives

Advanced Neuropsychological Assessment

Clinical Neurology

Behavioral Neurology

Rehabilitation Psychology

Neurolinguistics

Neuropsychology Electives (Continued)

Psychopharmacology

Neurophysiology

Neuropsychology of Memory

Developmental Neuroanatomy

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