Maximum Available Desk-to-Eye Distance for Students in Grades One and Two: Regional Norms and Statistical Comparison to Distance Used for Near Point Screening

Preface

Main Thesis Page

MAXIMUM AVAILABLE DESK-TO-EYE DISTANCE FOR STUDENTS IN

GRADES ONE AND TWO: REGIONAL NORMS AND STATISTICAL

COMPARISON TO DISTANCE USED FOR

NEAR POINT SCREENING

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A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF EDUCATION

BY

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DENTON, TEXAS

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TEXAS WOMAN'S UNIVERSITY

DENTON, TEXAS

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To the Dean for Graduate Studies and Research:

I am submitting herewith a dissertation written by Betty J. Ward entitled "Maximum Available Desk-to-Eye Distance for Students in Grades One and Two: Regional Norms and Statistical Comparison to Distance Used for Near Point Screening". I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Special Education.

M. L. Hayes
Major Professor

We have read this dissertation
and recommend its acceptance:

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3. participating schools and children;

4. participating furniture manufacturers--American Desk Company and Carter Craft;

5. state respondents knowledgeable about vision screening practices;

6. staffs
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Abstract

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This study establishes maximum available desk-to-eye distance (MA-DED) normative tables for students in Grades 1 and 2 (ages 6 to 9 years) and investigates the effect of age, grade, and sex on available viewing distances while seated at two styles of desks (storage at side or across).

Reports on:

target distances used in nearpoint vision screening (TDNPVS), plus lens power used to screen for hyperopia (+D_{FL}), and vision screening practices (50 states and District of Columbia).

Significance of the study:

supplies criteria for near viewing distances available to students (Grades 1 and 2, ages 6 through 9 years) as bases for generalizability of other research findings and screening results. Statistical findings (two-tailed, $p < .05$) supported three hypotheses: significant differences for independent samples (MA-DED means and TDNPVS), and diopter equivalents [D_S, D_A] of MA-DED means and summed equivalents and plus power used in screening, and significant differences for paired samples (means difference remeasured/measured MA-DED means). MANOVA revealed no effects of grade group or age group per se. Univariate analysis revealed three-way interaction among age group, grade, and style of desk; means differences of Side minus Across not consistent between grades when viewed across age groups.

Conclusions:

Present $+D_{FL}$ are too low for
mean viewing distances; near viewing distances are shorter than most near screening distances; available viewing distances of boys were usually shorter than those of girls; lower age and grade level are associated with shorter available maximum viewing distances; near visual demands are not constant across age and grade or desk style; viewing distance of across desk is less than viewing distance of side desk.

Application:

As viewing distances for near vision
screening research or determining generalizability; use individual MA-DED established in classroom or appropriate means of MA-DED.

Key Words:

Ages 6
through 9, Near Screening Distances, Near Viewing Distance, Norm Tables, Plus Screening Lens, Vision Screening Practices.

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