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
April 17, 1989

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:

Marjorie S. Keele
Jean Pyfer
Donna D. Tynan
Michael J. Wiebe

1. dissertation committee members--Professor Marnell Hayes (Chair), Marjorie Keele, M.D.; Professor Jean Pyfer, Professor Donna Tynan, Professor Michael Wiebe, and Professor Wallace Edge (formerly of Texas Woman's University);

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Abstract
Ward, Betty J., "Maximum Available Desk-to-Eye Distance for Students in Grades One and Two". Doctor of Philosophy (Special Education), May, 1989, 253 pp., 30 tables, 3 illustrations, 102 titles.

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 (+Dfl), 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.

Table of Contents

Acknowledgements
Abstract

List of Tables

List of Illustrations

Chapter I:

- Introduction
- The Problem
- Purposes of the Study
- Statement of Hypotheses
Chapter II: Review of the Literature

- Developmental Aspects of the Eye and Vision
- Investigations by Eye Care Professionals
- Investigations by Reading Specialists
- Screening
- Vision Screening Practices
- Furniture
Chapter III: Methodology

Subjects

- Solicitation of Participants
- School Districts
- Students
- Participants
- School Districts and Schools
§ Students

§ Helpers and Technician

○ Equipment and Instrumentation

○ Procedure

§ Organization of Testing

§ Administration of MA-DED Testing

○ MA-DED Norms

○ Statistical Analysis
Chapter IV: Data Analysis and Results

- Presentation and Analysis of Data
- Retention of Subjects for Data Analysis
- Results
- Summary

Chapter V: Summary, Findings, Discussion, Conclusions, Implications, and Recommendations

- Summary
- Findings
Discussion

§ Commentary

§ Observations

Conclusions

Implications

Recommendations

References

Appendices

Appendix A: State
Publications: Vision Screening Guidelines
Appendix B: Sample Teacher Observations

Appendix C: Inquiry Respondents

Appendix D: Letters

Appendix E: Brief Description of the Study

Appendix F: Summary Consent Form Reply: Measure/Remeasure

Appendix G: Instructions to Local Helpers

Appendix H: Figure 2. Demonstration of Correct Posture
Appendix I: Figure
3. Sample of Target Cross

Appendix J: Procedure for Taking the MA-DED Measurement

Appendix K: Form for Collection of MA-DED Data

Appendix L: Criteria for Measurement Locations and Resulting Locations

Appendix M: Criteria for Fit of Chair and Desk

Appendix N: Norming of the MA-DED

Appendix O: Legend of Acronyms

Appendix P: Reply and Response Forms
Appendix Q: Tables

List of Tables

Table 1: Mean
Nearpoint Working Distance According to Age Group in Hurst's Study (Hurst 1964)

Table 2:
Inquiry Responses, 1985-86: Frequency of Fogging Lens Power by Grade and Age

Table 3:
Inquiry Responses, 1985-86: Target Distances Used in Nearpoint Vision Screening (TDNPVS)

Table 4:
Manufacturers' Suggested Desk/Chair Heights for Grades 1 and 2

Table 5:
Subjects' Ages, Grade Levels, and Ethnic Origins
Table 6: Inquiry
Responses, 1985-86, Target Distances and Tests Used to Screen Nearpoint Vision

Table 7: Inquiry Responses, 1985-86, Power of Plus Diopter Lens Used to Screen for Hyperopia by Grade

Table 8: Frequency Distribution of Furniture Used for MA-DED Measurements

Table 9: Retention of Subjects for Data Analysis

Table 10: Range of Measured and Remeasured Side and Across MA-DED Scores and Target Distances for Nearpoint Vision Screening (TDNPVS)

Table 11: Range of Diopter Equivalents (+D) of Individual MA-DEDs

Table 12: Maximum Available Desk-to-Eye Distance (MA-DED) Means by Age Span and Desk Style

Table 13: Student's T-Tests: Expected and Actual Percentages

Table 14: MANOVA of the MA-DED
Table 15: Cell Means: Differences Between Across and Side MA-DEDs

Table 16: Inquiry Responses, 1985-86: Near Tests and Target Distances

Table 17: Inquiry Responses, (1985-86): Status of Vision Screening

Table 18: Excerpts from TEA Statistical Brief SB81SAR: Annotated Definitions of Terms

Table 19: Participating Public Schools: Texas Education Agency Category Analysis, 1985-86

Table 20: Participating Parochial School

Table 21: Description of Equipment Used in the Study

Table 22: Maximum Available Desk-to-Eye Distance (MA-DED) Means by Grade and Desk Style

Table 23: Maximum Available Desk-to-Eye Distance (MA-DED) Means by Sex, Grade, and Desk Style
Table 24: Maximum Available Desk-to-Eye Distance (MA-DED) Means by Age, Grade, and Desk Style

Table 25: Maximum Available Desk-to-Eye Distance (MA-DED) Means by Age, Sex, and Desk Style

Table 26: Remeasured Maximum Available Desk-to-Eye Distance (MA-DED) Means by Grade and Desk Style

Table 27: Remeasured Maximum Available Desk-to-Eye Distance (MA-DED) Means by Sex and Desk Style

Table 28: Linear Range of Emmetropic Clear Vision for Given Accommodation, With No Reserve

Table 29: Inquiry Responses (1985-86), Screening for Hyperopia by State: Fogging Lens Power at Given Grade(s) or Age(s)

Table 30: Inquiry Responses (1985-86): Hyperopia Screening by Grade, Age, Special Conditions or Populations, and Frequency
List of Illustrations

Figure 1: Relationship of Selected Criteria (+D Lens) to Screening Strengths

Figure 2: Demonstration of Correct Posture

Figure 3: Sample of Target Cross