Michigan Youth Vision Initiative

Surveying Michigan Elementary educators to build an understanding of their knowledge and opinions about students' visual needs.

by

Benjamin J Ondersma
&
Erin M Theut

This paper is submitted in partial fulfillment of the requirements for the degree of

Doctor of Optometry

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Has been approved

April, 2010

Ferris State University
Doctor of Optometry Senior Paper
Library Approval and Release

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I, Erin M Theut, hereby release this Paper as described above to Ferris State University with the understanding that it will be accessible to the general public. This release is required under the provisions of the Federal Privacy Act.

I, Benjamin Ordersma, hereby release this Paper as described above to Ferris State University with the understanding that it will be accessible to the general public. This release is required under the provisions of the Federal Privacy Act.

ABSTRACT

Background: There have been many studies conducted in the past concerning the correlation between vision and academic performance. However, there has been limited research performed related the amount of this information that has reached the general elementary school educator population. Our goal is to determine the amount of knowledge educators have on this subject, and what methods are in place to aid teachers in getting students' visual needs met. *Methods:* An online survey was distributed via email, to elementary school principles, superintendents and teachers in approximately 4 elementary schools from every county in the state of Michigan. *Results:* 134 individual teachers responded from 22 counties throughout Michigan. 86% believed that the state should enact a program requiring a mandatory comprehensive vision exam prior to entry in kindergarten. *Conclusion:* Teachers could learn a lot more about signs and symptoms of vision related learning issues. We as optometrists can help fill this gap. The teachers believe that the State of Michigan should advance its laws by requiring comprehensive eye exams for elementary students before entering kindergarten

Acknowledgements

We would like to acknowledge our advisor, Dr. Sarah Hinkley for her guidance throughout this project.

We dedicate this project to all teachers who strive to improve their students' lives through their own commitment to lifelong learning.

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Background

It is estimated that 1 in 5 children in America today have a vision problem.[1] Given this high prevalence, it is very important to pick up these problems early before they can act as a hurdle to a child's learning potential. In general, learning difficulties are grouped into five categories: math difficulties or dyscalculia, language difficulties or dyslexia, motor skills difficulties or dyspraxia, writing difficulties or dysgraphia, and behavior disorders.[2] In many cases, the root cause of all these disorders can be traced back to vision. Learning related vision problems can be further broken down to two broad components: visual efficiency, and visual information processing. Visual efficiency represents the basic visual components of visual acuity relating to refractive error, accommodation, vergence, and ocular motility. Visual information processing involves higher brain functions which are integrated with motor, auditory, language, and attention systems.[3] Although vision plays a role in learning difficulties, it is estimated that 2.25 million children have a viable learning disorder not related to vision as the primary cause as well.[4] Therefore, proof is given that there is a need for separation between the students with and without visual difficulties when a learning deficit is involved.

In many cases, it is the teachers that observe children during the most demanding visual tasks of their day and are privileged to first-hand information on potential signs of vision issues. This is especially true for elementary teachers, who are exposed to children at younger ages. Most of these teachers have vision screenings available to help detect any potential visual problems. These screenings typically include tests that detect amblyogenic factors, such as, anisometropia, strabismus, significant hyperopia or myopia, media opacities, astigmatism, and ptosis.[5] However, very little research has

been conducted concerning the referring habits and knowledge of vision related learning issues common among elementary teachers today. This online survey was produced and distributed to address these issues, as well as obtain a general overview of school vision screenings currently in place and teachers opinions toward changes to the current system.

Methods

First, an online survey was composed containing general questions pertinent to elementary teachers' knowledge of vision and learning with four main sections titled: background information, vision and learning, eye exam referrals, and school screenings (see Appendix A). This survey was posted to the internet using the survey site stellarsurvey.com. Next, the head secretary, principal or superintendent of 370 randomly selected elementary schools in throughout the state of Michigan was contacted by phone or via email during the months of December and January. Permission was asked to email them a letter (see appendix B) including a link to the online survey, with an understanding that they would distribute the sent email to the elementary grade school teachers within their school or district.

The surveys were projected to reach approximately 2400 teachers within the 370 elementary schools surveyed (see Appendix C for school list). With the goal of a 10 percent response rate, it was expected that approximately 240 teachers would respond to the survey. The online survey was closed to responses on February 15, 2010. The results of the surveys were tabulated and analyzed in the following report.

Results

Out of 2,990 elementary schools located in the state of Michigan, approximately 370 were surveyed. This accounts to roughly 12.4% of elementary schools in the state, or an average of 4 elementary schools per county. Responses were received from 154 individual teachers from throughout 22 counties in Michigan, representing 6% of the projected 2400 teachers and a wide variety of grade levels including: 9% teaching kindergarten, 15% 1st grade, 14% 2nd grade, 13% 3rd grade, 13% 4th grade,7% 5th grade, 1% 6th grade and 31% responding other (figure 1). Of the 154 teachers, 11% have been working for one to five years, 20.8% have been working for five to ten years, 21.4% have been working ten to fifteen years, and 46.8%, have been teaching for fifteen years or more (figure 2). The average class size of those surveyed was 20 to 30 students with an average of 3-5 students per class wearing vision correction (figure 3).

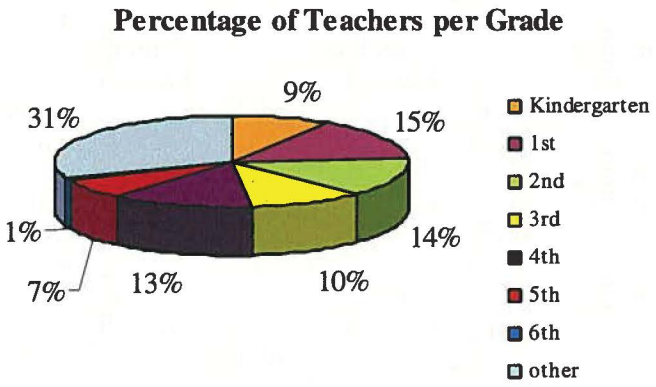

Figure 1 - Percentages of responses to survey question 1: 'What grade do you teach?'

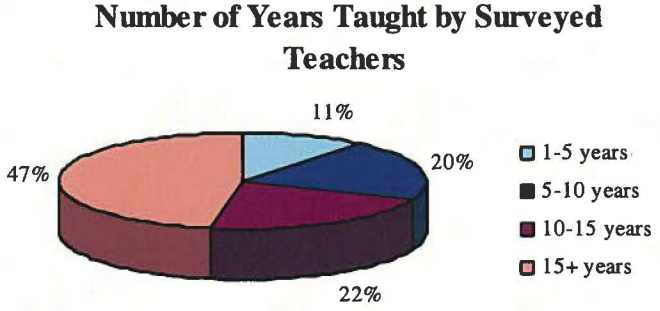

Figure 2 - Percentages of responses to survey question 3: 'How many years have you been teaching?'.

On the next section of the survey, 137 teachers responded to the question: have you ever recommended a student (past or present) receive a comprehensive eye exam? Out of these responses, 70.1% responded only "Yes", 13.9% responded only "No", and 16.1% responded only "Multiple times". When asked why they recommended these students receive a comprehensive eye exam; 54% noted that they observed something in class, 22% were due to the student's academic performance, 5% were due to the teacher observed during playtime or on the playground, 12% were based on just looking at the student, and the other 7% gave specific examples of what they observed that caused them to make a recommendation (figure 4). On the follow-up question regarding if the students' parents followed through with the

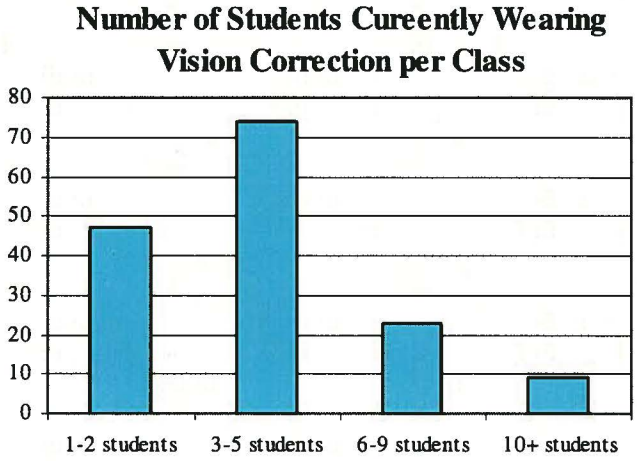

Figure 3 - Response to survey question 4: "How many students in your class are currently wearing vision correction?"

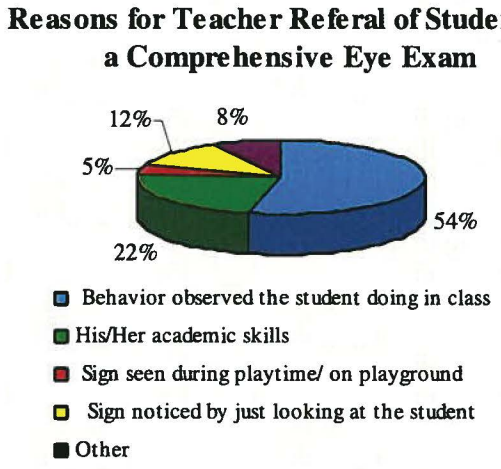

Figure 4- Responses to Survey question 7: 'In regards to question 5: What circumstances or observations best describe what caused you to refer the student?'

recommendation: 21.9% of the teachers answered "Yes", 59.9% answered "Yes, but only some of the time", 7.3% answered "No", and 10.9% gave answers that were related to the financial inability of the parents to follow through with the eye examination (figure 5). The next question asked the teachers what signs or observations they identified as related to with students having a vision problem. 8 out of the 137 that answered stated that they were unaware of what to look for. The other 129 teachers that answered this question gave answers that ranged from holding reading material too close to not being able to see the board (see table 1).

Teacher Responses Concerning Whether-or-Not Parents Followed-through after a Recommendation for an Eye Exam was Made

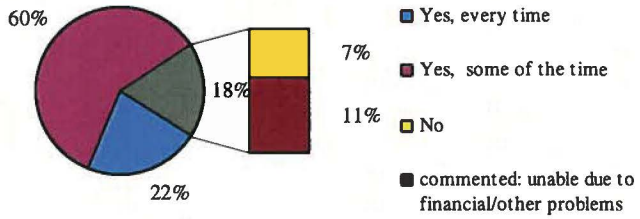

Figure 5 - Response to survey question 8: 'Did the parents follow through on your recommendation for the student to recieve an eye exam?'

Most Common Signs of Visual Problems Noted

Signs	% of responses
Squinting	69%
Working Distance	47%
Can't see board/moving closer	46%
Reading Skills/ low level	33%
Headache	25%
Handwriting/Copying problems	21%
Tracking	14%
Rubbing/watery/ eye health	13%
Reversals	11%
Eye Turn	6%
attention / directions	6%

Table 1 - This table represents the most common signs the teachers listed in response to survey question 9: 'what are some signs or Observations that would clue you into a student having a vision problem?'

On average, each teacher listed approximately 3.4 possible signs they observe for before making a referral for a vision exam. The most common sign listed was squinting.

The next set of survey questions were related to vision therapy. Teachers were asked if they had any students in their class that had received any form of vision therapy. As shown in Figure 6, 37% responded "Yes", 20% responded "No", 32% were "unaware", and 11% responded that they did not know what vision therapy was. Of those who responded "Yes" to the previous question, the teachers were asked if they noticed a difference in the student's overall achievement in school after the vision therapy. Eleven out of 61 (18%) of responders noticed a 'dramatic change', 39/61 (63.9%) noted 'somewhat of a change', and another 11/61 (18%) noticed 'little to no change' (figure 7).

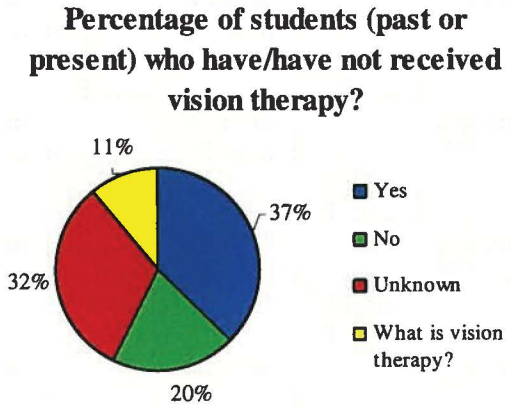

Figure 6 - Response to survey question 10: 'Have any of your past or current students received vision therapy?'

One hundred percent of the responding teachers answered "Yes" to the question, "Are you aware that a student's vision can affect their academic achievement?" The teachers were then asked if they would like to receive continuing education courses related to students' vision and learning. As Figure 8 demonstrates, 23.4% replied "Yes, I am

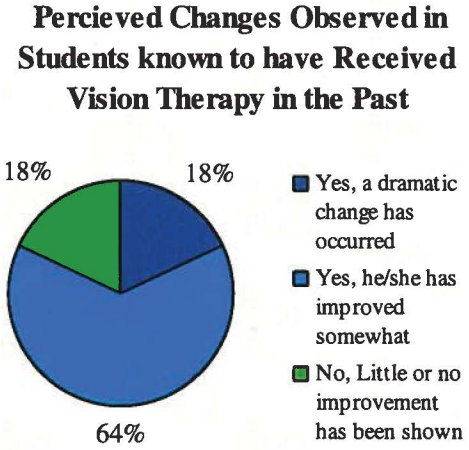

Figure 7 - Response to survey question 11: 'If you answered yes to the previous question, have you noticed improvement in the student's overall acheivement in school?'

very interested", 51.1% responded "Maybe, in small doses", and the other 25.5% responded "No, thanks" (figure 8).

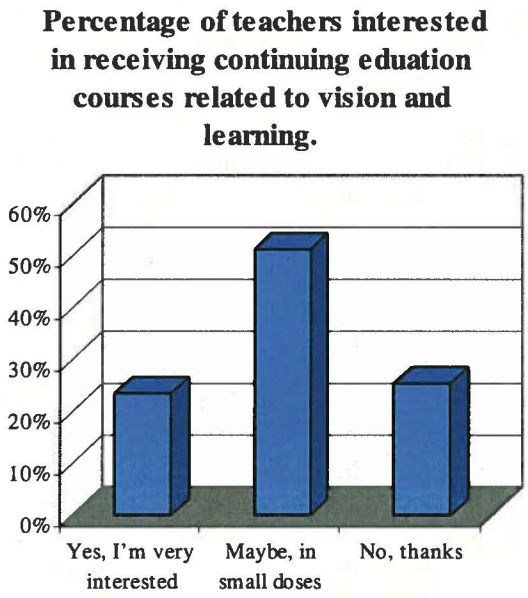

Figure 8 - Response to survey question 13: 'Would you be interested in receiving continuing education courses in topics related to students' vision and learning?'

Finally, the last four questions were related to schools' vision screening programs. 94.9% of surveyed teachers responded that their school has a vision screening program currently in place. When asked if they were satisfied with the school's current vision screening program; 64.9% stated that they were satisfied, while the other 35.1% were not satisfied (figure 9) 93.4% of teachers surveyed believed that mandatory eye exams prior to kindergarten would benefit the students and schools (figure 10) and 86% agreed that the state or federal government should enact a mandatory comprehensive vision exam program in the state of Michigan (figure 11).

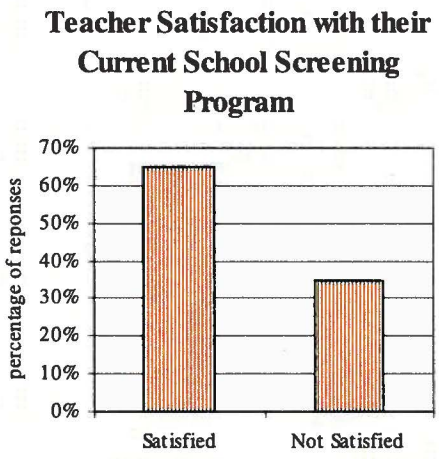

Figure 9 - Response to survey question 15: 'Are you satisfied with the school's current screening program?'

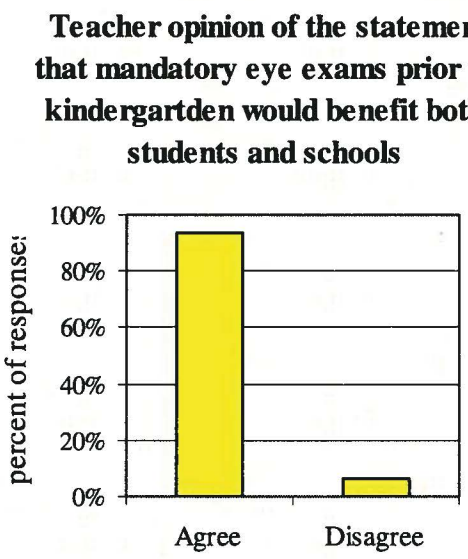

Figure 10 - Response to survey question 16: 'Do you believe that mandatory eye exams prior to entry into kindergarten would benefit the students and schools?'

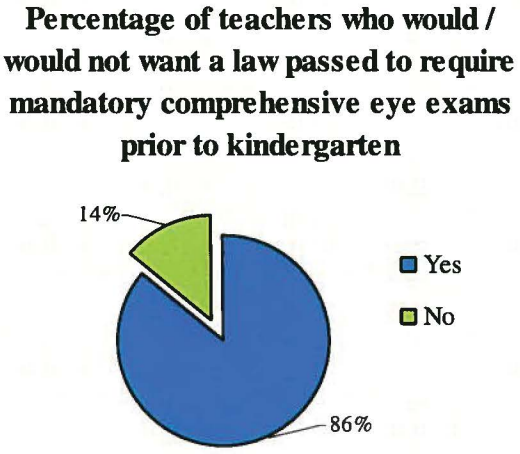

Figure 11 - Response to survey question 17 in reference to question 16: 'Would you like to see the state or federal government enact such a program?'

Discussion

Children with undetected and uncorrected vision problems might not ever reach their full academic potential.[1] In fact; it has been shown that children with visual difficulties are greater at risk for dropping out of school, and becoming juvenile delinquents.[6] Therefore, it is important to screen for these problems early in a child's life. There is no better place to look for these vision problems than in the school environment, where their visual skills are put to the test every day as 80% of what a child learns enters through the visual channel. [6,7] This survey's goal was to obtain a general idea of Michigan elementary teachers' knowledge, referral practices, and school programs in place related to vision problems and learning.

Background Information

While the survey responses were not as numerous as expected, (154 responded as opposed to a goal of 240 respondents being the goal) a reasonable amount of data was gathered from a diverse group of educators across the state of Michigan. As stated earlier in the results section, teachers responded from 22 counties across Michigan. Based on our random selection of schools in each county, the teachers no doubt represent a wide array of communities and differing socio-economic conditions of students within the schools. The majority of the responding teachers had been teaching for more than 10 years, so the majority are very experienced in the classroom and have observed many students in their careers thus far. The survey respondents represent a wide variety of elementary grades, as well as the "other" category representing those who teach across multiple grades in a particular subject, group of subjects or alternative/special education.

Exam Referrals

Over 86% percent of the teachers responding to the survey have referred a student for a comprehensive eye examination at least once. This indicates that the majority of Michigan teachers are actively observing vision problems in their students every year. This is a good sign for students, parents and optometrists. This also shows that elementary teachers are in an excellent place to observe signs of vision problems. Seventy six percent of referring teachers noted that they referred the student based on either something they observed in class or related to their academic performance, while only 12% reported that they referred based on something they could see by just looking at the student which represents more physically obvious issues. This reinforces the importance of educator training on the signs of student vision problems apparent in the classroom. Those making referral are doing so based on what they believe to be appropriate signs of vision problems.

Only 22% of referring teachers reported that the parents followed through on their recommendations for a vision exam every time, while approximately 60% stated that parents followed through 'some of the time'. This data leads to the question of why follow-up does not occur and how the problem could be addressed. This lack of follow through may be decreased by optometrists working more closely with their local school systems and teachers, including the introduction of programs aimed at financially aiding the uninsured or under-privileged. Perhaps by being more specific about where to send their child for an exam would increase the chances of the parents following through on the teachers' advice, although such specificity may lead to a host of political problems.

The most common reason stated in survey responses for lack of follow through was due to family financial troubles. The financial barrier along with lack of insurance, family problems, logistical problems, lack of access, parental denial, or lack of parental motivation, makes these situations unfortunate for all involved and an all too common circumstance. This is especially troubling for those schools located in large cities, as it has been shown that children from poor urban areas that have two times the normal rate of vision problems. [1]

Vision & Learning

The next set of questions was a revealing portion of the survey relating to Michigan elementary teachers' knowledge of vision problems and their treatment. Similar to results of a survey conducted in Oklahoma and Texas, the most common sign teachers noted in students with vision problems was squinting. [8] Comments related to working distance and inability to see the board were the next most common responses. With an average of 3.4 signs listed per responder, a wide variety of observations were offered. An impressive example came from one teacher who wrote the following: "*Unable to visually track, Poor convergence, Turns head to primarily use only one eye when writing or reading, reversals or writing with mirror images, eyes & head movements are not disassociated-head turns to look all the time, rubs eyes during close work, unable to finish work due to fatigue (visual) - to name a few.*" It would be wonderful if all educators surveyed could easily reply in such a fashion that addresses not only students' visual acuity; but their eye alignment, visual-motor integration, visual-attention and eye health. [9] Some common symptoms related to learning problems listed

by the College of Optometrists in Vision Development (COVD) that were missing from the responses were: poor spelling, poor reading comprehension, using finger to keep place when reading, loosing place or skipping lines when reading, and low level math skills. [10] Although some of these may have been broadly categorized under other listed.

A less impressive statistic came to light when the teachers were asked about vision therapy. A staggering 43% of responding teachers were either unaware if any of their students had ever received vision therapy, or did not know what it was. This could be deemed unacceptable from an optometric standpoint. Vision therapy has been shown to be a highly effective treatment for many common vision disorders related to reading disabilities, even more so than tutoring alone. [11,12] The fact that so many teachers were unaware of this treatment could be remedied through further teacher continuing education and curriculum changes in college education programs. Of the 37% of teachers who did report having a student undergo vision therapy, 18% reported a dramatic improvement in the student's academic performance and almost 64% reported at least some improvement. This statistic provides excellent feedback for optometrists regarding the effectiveness of their vision therapy programs currently in place. However, more could be accomplished by local optometrists to help increase teachers knowledge of what vision therapy is and which students are good vision therapy candidates. A recent article in the Journal of Optometry and Vision Development suggested making classroom visits with individual teachers to help bridge this gap. [13] Also, a study conducted in New York found that a 40 minute lecture on 'vision and its relationship to learning' led to a statistically significant increase in the teachers ability to correctly indentify students with vision problems. [14] These findings, coupled with the result of nearly 75% of the teachers responding to our

survey being at least somewhat interested in continuing education courses related to vision and learning, show that a little time and effort by optometrists could go a long way in building a strong local resource for referrals and lifelong patients, and translate into many children benefitting from optometric intervention.

School Screenings & State Requirements

Michigan state law requires that students enrolling in kindergarten must provide evidence that their vision has been tested at least once since the age of 3. [15] Unlike many other state mandates, that are specific, this law does not dictate that it must be a comprehensive vision exam, nor does it dictate any follow up vision screenings/exam for the duration of the students' education. Michigan law should be re-examined and updated to reflect the trend toward mandatory comprehensive eye exams in states across the country. The fact that 93.4% of the Michigan elementary teachers surveyed agreed that a mandatory comprehensive vision exam would benefit both the students and schools should not be ignored.

Luckily, almost 95% of those schools responding to the survey have a vision screening program in place. However, only 65% of teachers were satisfied with their current school screening program. This also reinforces the need for a change in state requirements. Specifics of the school screenings were not asked in this survey, but this would be an interesting area of further research. It would be beneficial to gather educator feedback on what does and does not work in regards to their school vision screening programs so that such information could be utilized to improve existing programs statewide.

Limitations of the survey include the relatively low response rate. It could be inferred that the teachers who took the time to respond to the survey are some of the more conscientious and therefore may put more effort into detecting and referring for vision problems. This survey did not reach pre-school, pre-K, Head-Start or 7-12th grades. Therefore, further research is needed on educators instructing these grade levels. A mail-based survey may have given a better rate of return, although email was preferred based on cost and speed. Difficulty was encountered when school secretaries and administrators were contacted and asked permission for aiding in the dispensing the survey by email. The actual number of survey emails received and read by elementary teachers was not ascertainable. A larger response may have been obtained by looking up individual teacher email addresses and sending the surveys directly. A few school contacts stated that they were not allowed to dispense any email or disclose teacher email addresses even though such emails are obtainable on most school websites.

Conclusion

Of those Michigan elementary educators surveyed, 100% were aware that vision affects the learning potential of students. However, many teachers across the state could use continued instruction on vision and learning as well as vision therapy to expand their knowledge on these subject. This could be accomplished through continuing education courses, which elementary teachers as a whole are open to, or additions to college curriculum. In the areas of school administration, and teacher education on vision and learning, optometrists could help bridge a gap in knowledge and make teachers an even more valuable source of referrals and partners in promoting healthy vision in the elementary youth of Michigan.

86% of elementary educators surveyed believed that the state should enact a program requiring a mandatory comprehensive vision exam prior to entry in kindergarten. This overwhelming statistic is powerful proof that elementary teachers understand how important a healthy visual system is to academic success and can provide a catalyst for enacting a mandatory legal requirement in partnership with eye-care professionals.

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APPENDIX A

ONLINE SURVEY

Michigan College of Optometry - Youth Vision Initiative

University Eye Center

Michigan Public School Educator Survey

Thank you for your time in filling out this anonymous survey. We value your opinion.
Voluntary aggreement to participate is assumed upon completion of the survey.

1. Background Information

1. What grade do you teach? *

-- Select --

2. In which Michigan County to do you teach? *

-- Select --

3. How many years have you been teaching? *

- 1-5 years
- 5-10 years
- 10-15 years
- 15+ years

4. How many students are in your class this year?*

- 1-10 students
- 10-20 students
- 20-30 students
- 30+ students

5. How many students in your class are currently wearing vision correction? *

- 1-2 students
- 3-5 students
- 6-9 students
- 10+ students

2. Exam referrals

6. Have you ever recommended a student (past or present) receive a comprehensive eye exam? *

- Yes
- No
- Multiple times

7. In regards to question 5: What circumstances or observations best describe what caused you to refer the student?

- Something I saw the student doing in class
- His/Her academic skills
- Something observed during playtime or on the playground
- Something I noticed by just looking at the student
- Other (please specify)

8. Did the parents follow through on your recommendation for the student to recieve an eye exam?

- Yes, every time
- Yes, but only some of the students
- No
- comment

9. What are some signs or observations that would clue you into a student having a vision problem? *

- I am unaware of what to look for
- I am aware of the following signs:

3. Vision and Learning

10. Have any of your past or current students received vision therapy? *

- ○ Yes
- ○ No
- ○ Unknown
- ○ What is vision therapy?

11. If you answered yes to question 8, have you noticed improvement in the student's overall acheivement in school?

- ☐ Yes, a dramatic change has occurred
- ☐ Yes, he/she has improved somewhat
- ☐ No, Little or no improvement has been shown
- ☐ additional comment:

12. Are you aware that a student's vision can affect their academic achievement? *

- ○ Yes
- ○ No

13. Would you be interested in receiving continuing education courses in topics related to students' vision and learning?*

- ○ Yes, I'm very interested
- ○ Maybe, in small doses
- ○ No, thanks

4. School Screenings

14. Does your school/school district currently have a vision screening program? *

- ○ Yes
- ○ No
- ○ Not sure

15. If you answered yes to the previous question: Are you satisfied with the school's current screening program?

- ○ Yes
- ○ No

16. Do you believe that mandatory eye exams prior to entry into kindergarten would benefit the students and schools? *

- ○ Yes
- ○ No

17. Would you like to see the state or federal government enact such a program? *

- ○ Yes
- ○ No

We welcome all additional comments and suggestions. Thanks so much for your time!
Please contact theute@ferris.edu if you have any questions regarding this survey.

APPENDIX B

EMAIL

Dear Valued Educator:

Thank you for taking the time to consider this email.

We are doctorate students at the Michigan College of Optometry conducting research concerning elementary school teachers' knowledge about the connection between students' vision and academic performance. We have emailed this survey to several public elementary schools in every Michigan County.

To take this 5 minute online survey, please click on the link here: Michigan Youth Vision Survey

Responses are completely anonymous and no identifying information is required. Your response to the survey indicates your willingness to participate in this research. Please respond by February 15th.

If you have any questions or concerns, feel free to email us at MCOsurvey.youthvision@gmail.com

Thanks again for your time and participation. We look forward to hearing from you.

Sincerely,

Benjamin Ondersma	Erin M. Theut	Sarah Hinkley O.D.
Senior Intern	Senior Intern	Faculty advisor

APPENDIX C

SCHOOLS CONTACTED

County	School
Alcona	Alcona es
	Glennie es
Alger	Central es
	Burt ts*
Allegan	Hopkins es
	Starr es
	Maplewood es
	Hamilton es
	Sycamore es
	Allegan es
	Bentheim
Alpena	Sunset es
	Long Rapids es
	Besser
	Wilson es
Antrim	Lakeland es
	Central Lake es
	Bellaire es
	Mill creek es
Arenac	Standish es
	Sterling es
	AU gres-sims es
Baraga	Pelkie es
	Sullivan es
Barry	Mcfall es
	Northeasten es
	Delton-Kellogg
Bay	Kolb es
	Pinconning Central es
	Auburn es
	Hughes es
Benzie	Crystal lake es
	Frankfort es
	Lake Ann es
	Platte River es

County	School
Berrien	Ballard es
	Washington es
	Stark es
	Brandywine
	King es
Branch	Jefferson es
	Ryan es
	Edison es
	Jennings
Calhoun	Harrington es
	Tenkonsha es
	Parma es
	Springfield es
	Minges es
	Prarieview es
	Riverside es
	West Lake
Cass	Kincholoe es
	Sam Adams es
	Justus Gage es
	Marcellus es
Charlevoix	Boyne City es
	Charlevoix es
	East Jordan
Cheboygan	Black River es
	Wolverine es
	Inland Lakes es
	Iverness es
Chippewa	Brimley es
	Turner-Howson es
	De Tour es
	Rudyard area
Clare	Robert M. Lawson es
	Farwell es
	Hillside

County	School
Clinton	Schavey Road es
	East Olive es
	Bath es
	Leonard es
Crawford	Grayling es
	Ausable ps
Delta	James T. Jones es
	Franklin es
Dickinson	Woodland es
	East es
	Central es
Eaton	Bellevue es
	Potterville es
	Lockwood es
	Fern Persons
	Northwest
Emmet	Shay es
	Ottawa es
	Blackbird es
Genesee	Argentine es
	Carman Park es
	Gaines es
	Dye es
	Central es
	Hill es
	Linden
	Mcgrath
	Rankin
	Thomson
Gladwin	Beaverton es
	Gladwin es
Gogebic	Norrie es
	Sleight es
Grand Traverse	Lake Ann es
	Willow Hill es
	Blair es
	Kingsley es
Gratiot	South es
	Ashley es
Hillsdale	Bailey es
	Camden-Frontier
	Litchfield es
	Reynolds es
Houghton	T.r. Davis es
	South Range es
Huron	Laker es
	Harbor Beach
	Adams es
	Unionville es
	caseville es
	Ubly es
Ingham	Cornell es
	Donley es
	mason es
	Dansville es
	Holt es
	Whitehills es
Ionia	Oakwook es
	Ellis es
	Orchard hills es
	Parkview es
Iosco	Whittemore-Prescott es
	Richardson es
Iron	Stambaugh es
	Forest park es
Isabella	Beal City es
	Pullen es
Jackson	Hanover-Horton es
	George Long es
	Arnold es
	Keicher es
	Hunt es
	Cascades es

County	School
Kalamazoo	Prairie woods es
	Amberly es
	Bedford es
	Gull Lake es
	Indian Lake es
Kalkaska	Rapid City es
	Cherry Street is
Kent	Cedar Trails es
	Brookwood es
	Alpine es
	Pinewood es
	Caledonia es
	Sherwood park es
	Grand Rapids es
	West Oakview es
Keweenaw	Grant Township s
	Cik Kindergarten center
Lake	Luther es
	Baldwin es
Lapeer	Almont es
	Maple Grove es
Leelanau	Glen Lake es
	Norris es
Lenawee	Wayne Gray es
	Sutton es
Livingston	Creekside es
	Farley Hill es
	Kreeger es
	Hartland Round es
	Howell es
Luce	Newberry es
Mackinac	St. Ignace es
	Cedarville es

County	School
Macomb	Wilkerson es
	Princeton es
	Jack Harvey es
	Onsted es
	Tecumseh Acres es
	Morenci es
Manistee	Onekama es
	Washington es
Marquette	Sandy Knoll s
	Aspen Ridge es
	KI sawyer es
	Lakeview es
Mason	Victory es
	Franklin es
Mecosta	Barryton es
	Brookeside es
	Riverview es
	Stanwood es
	BR superindendent
Menominee	Normal Central es
	Stephenson es
Midland	Woodcrest es
	Meridian es
	Adams es
	Bullock es
	Longview es
	coleman es
Missaukee	Lake city es
Monroe	North es
	Dundee es
	Monroe superintendent
	Manor es
	Jackman Road es
	Hollywood es
	Lakeshore superintendent

County	School
Montcalm	Lakeview es
	Sheridan es
	Vestaburg superintendent
	Crystal es
	Carson es
Montmorency	Atlanta community es
	Hillman es
Muskegon	Oehlri es
	Oakview es
	Shoreline es
Newaygo	Grant es
	Pathfinder es
	Daisy Brook es
	Jack D Jones
Oakland	Forest es
	Owen es
	Bailey lake es
	Hillside es
	Angell es
	Baker es
	Highland es
	Oxbow es
	Delta Kelly
	Hampton es
	McGregor es
	North Hill es
	Deerfield es
	Novi Superintendent
Oceana	Walkerville es
	Spitler es
	Benona es
	New Era es
	Thomas Read es
Ogemaw	Rose City es
	Surline es
Ontonagon	Ontanagon Area es

County	School
Osceola	Leroy es
	Evart es
	Marion es
	Tustin es
	Reed city
Oscoda	Fairview es
	Mio-Ausable es
Ostego	South Maple es
	North Ohio es
Ottawa	Coopersville West es
	Quincy es
	Glerum es
	Great Lakes
	Lakeshore es
	Lakewood es
	North Holland es
	Pine Creek es
	Waukazoo es
	Woodside es
	Lincoln
	New Groningen
	Roosevelt es
	Woodbridge es
	Holland Heights
	Marne es
Presque Isle	Posen es
	Rogers City es
Roscommon	Roscommon es*

County	School
Saginaw	Brucker es
	Hemlock es
	Miller es
	Arrowwood es
	Hemmeter es
	Plainfield es
	Weiss es
	Westdale es
	Coulter es
	Heaven rich es
	Herig
	Houghton es
	Jerome es
	Kempton es
	Long Fellow es
	Merrill Park es
	Rouse es
	Stone es
	Swan Valley District
	Freeland es
	Robert B Havens es
Sanilac	Peck Community es
	Meyer es
	Carsonville-Port es
	Maple Valley es
	Deckerville es
Schoolcraft	Lakeside school
Shiwasee	Byron Area es
	Perry es
	Elsa Meyer es
	Louise Peacock es
	Nellie Reed es
	Laingsburg es
St. Clair	Fair Haven es
	Algonac es
	Avoca es
	Farrell es
	Yale es
	Capac es
	Edison es
	McDonald es
	Belle River
	Eddy es
	Gearing es

County	School
St. Clair	Palms
	Pine River es
	Washington es
St. Joseph	Centreville es
	Riverside es
	Colon es
	Eastside es
Tuscola	Mccomb es
	Reese es
	Akron-Fairgrove es
	Schall es
	Kirk es
Van Buren	Davis es
	Red Arrow es
	Davis es
	Paw Paw es
	Blomingdale es
	South Walnut
Washtenaw	Cornerstone es
	Pierce Lake es
	Lakewood es
	Child's es
	Ford es
	Holmes es
	Kaiser es
	Kettering es
	North Creek es
	Thurston es
	Burns Park es
	Dicken es
	Salem es

County	School
Wayne	Allen es
	Bagley es
	Davidson es
	Mccoll es
	Al Holmes es
	Albert Schweitzer es
	Arno es
	Bennie es
	Lindemann es
	Barton es
	Bennett es
	Carleton es
	Chrysler es
	Dossin es
	Emerson es
	Gardner es
	Harms es
	Jordan, Barbara es
	Logan es
	Mann es
	Mark Twain es
	Neinas es
	Noble es
	Parker es
	Pheonix es
	Priest es
	Rutherford es
	Schulze es
	Spain es
	Thirkell es
	Van Zile es
	Wayne es
	Wilkins es
	Coleman A Young es
	Ferrand es
	Tonda es
	Workman es
	Hoban es
	Bird es
Wexford	McKinley es
	Forest View es
	Floyd M Jewett es
	Manton es

Legend:
es = elementary school