2011

The occupational therapy handbook for parents (OTHP)

Kristen Rosenbeck
University of North Dakota

Follow this and additional works at: http://commons.und.edu/ot-grad
Part of the Occupational Therapy Commons

Recommended Citation
http://commons.und.edu/ot-grad/293

This Scholarly Project is brought to you for free and open access by the School of Medicine & Health Sciences at UND Scholarly Commons. It has been accepted for inclusion in Occupational Therapy Scholarly Projects by an authorized administrator of UND Scholarly Commons. For more information, please contact zeinebyousif@library.und.edu.
The Occupational Therapy Handbook for Parents (OTHP)

by

Kristen Rosenbeck, MOTS

Advisor: LaVonne Fox, OTR/L, PhD

A Scholarly Project

Submitted to the Occupational Therapy Department

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Master's of Occupational Therapy

Grand Forks, North Dakota

May 2011
Approval Page

This Scholarly Project Paper, submitted by Kristen Rosenbeck in partial fulfillment of the requirement for the Degree of Master’s of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

[Signature]

Faculty Advisor

[Date]

Date
PERMISSION

Title: The Occupational Therapy Handbook for Parents (OTHP)

Department: Occupational Therapy

Degree: Master’s of Occupational Therapy

In presenting this Scholarly Project in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Department of Occupational Therapy shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my work or, in her absence, by the Chairperson of the Department. It is understood that any copying or publication or other use of this Scholarly Project or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and the University of North Dakota in any scholarly use which may be made of any material in our Scholarly Project Report.

Signature: [Signature]

Date: 4/23/11

iii
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. LITERATURE REVIEW</td>
<td>4</td>
</tr>
<tr>
<td>III. METHODOLOGY</td>
<td>25</td>
</tr>
<tr>
<td>IV. PRODUCT</td>
<td>28</td>
</tr>
<tr>
<td>V. SUMMARY</td>
<td>30</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>34</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table I. Typical Fine Motor and Hand Skills Development................................. 5
Table II. Typical Pencil Grasp Development....................................................... 6
Table III. Context Data For the Occupational Therapy Handbook for Parents.......... 21
Table IV. Intervention Strategies for the Occupational Therapy Handbook for Parents... 22
ACKNOWLEDGEMENTS

I would like to thank my advisor, Dr. Fox, for support, expertise, and encouragement throughout the development of this scholarly project. I appreciate the ongoing communication and advice she offered throughout this experience. I would also like to thank my family for their support. I thoroughly appreciate their understanding and patience.
ABSTRACT

Children spend 60% of their day completing fine motor activities (Feder, 2007; Mackay, 2010). Therefore, it is essential that young children be exposed to a variety of fine motor activities in school and home settings to promote fine motor development. Often times parents are willing to help their children develop these skills, however, they do not feel they have the resources to do this.

The Occupational Therapy Handbook for Parents (OTHP) was designed by an occupational therapist to provide consistent parent education regarding children’s fine motor skills. A literature review was completed to define typical fine motor development, best practices in handwriting instruction, and best practices in developing parent education materials.

The OTHP includes definitions of typical fine motor development, a variety of activities for parents to complete at home, and occupational therapy resources. The OTHP will ideally lead to increased fine motor exposure in the home. This will provide children with stronger fine motor skills in the classroom as well as increased success with handwriting and classroom activities.
CHAPTER I
INTRODUCTION

Handwriting is an essential skill for students of all ages as it is incorporated into every subject throughout an individual's lifetime. Even with the increased use of technology, it is important that students have the ability to write legibly (Feder, 2007). Concerns with students’ handwriting legibility and fine motor skills are often identified as children begin learning to write in the early elementary years. This often leads to a referral for school-based occupational therapy services (Denton, Cope, & Moser; 2006). Providing parents with a resource that promotes fine motor activities and handwriting practice in the home will increase their knowledge and understanding of the importance of repeated practice of these skills.

In an effort to promote fine motor development at the preschool and Kindergarten level, the Occupational Therapy Handbook for Parents (OTHP) was developed. The purpose of this scholarly project was to design a resource for parents that would encourage parental involvement of providing increased exposure to fine motor and handwriting activities at home. The OTHP development focuses on increasing parent’s knowledge of what fine motor skills are and provided suggestions of activities that can be completed within the family’s daily routine that incorporate fine motor development. Information regarding handwriting development, resources for handwriting practice and occupational therapy intervention are included as well. The handbook is designed
primarily for parental use; however, teachers within Heartland Area Education Agency will have access to the information as well.

The Ecological Model of Occupation (EMO) was chosen for the basis of this project. The EMO emphasizes a collaborative approach, the impact context has on performance, and the focus on successful completion of tasks (Dunn, Brown, & Youngstrom, 2003). The Ecology of Human Performance framework provides effective intervention strategies and is designed to work with client populations.

Throughout this scholarly project, several terms have been used to explain the proposed program in the literature review, methodology, and the actual product. These terms have been defined to ensure the reader has an accurate understanding of the author’s intent.

Terms and Definitions:
1. Fine Motor Skills -- Movements of the small muscles of the hands, wrists, and fingers. These include finger grasp, pinch, in-hand manipulation, and coordination of the fingers (Feder, 2007, Naus, 2000).
2. Parents – For the use of this project, parents refers to the adult caregivers that provide guidance and assistance with children’s development. This could include legal parents or guardians, grandparents, daycare providers, and/or friends.
3. Tripod Grasp – Writing utensil grip where thumb and index finger pinch the end of the writing utensil while it rests on the middle finger (Naus, 2000).
4. Handwriting – Formation of Beery’s VMI prewriting strokes, uppercase, and lowercase letters of the alphabet using a writing utensil (pencil, pen, crayon) and writing surface (paper, dry-erase board, etc) (Beery & Beery, 2004).

6. Preschool age children – For the purpose of this paper, preschool-age children are primarily referring to children 3 and 4 years of age.

7. Early elementary-aged children – For the purpose of this project, this is referring to children ages 5 – 8, typically in grades Kindergarten through 2nd grade.

The next four chapters will present the Occupational Therapy Handbook for Parents scholarly project. Chapter II is a literature review of handwriting development and difficulties identified with early fine motor and handwriting development. This chapter also presents best practices in handwriting development and in the development of parent education training materials. The need for this program within Heartland Area Education Agency 11 and the role of occupational therapy is also explored. Chapter III presents the methodology used to design this scholarly project. Chapter IV provides the Occupational Therapy Handbook for Parents in its entirety. Finally, Chapter V consists of a summary of the purpose of the scholarly project as well as recommendations for its implementation.
CHAPTER II
LITERATURE REVIEW

Introduction

Research studies have reported that children spend up to 60% of their day completing handwriting and fine motor activities (Feder, 2007; Mackay, 2010; McHale, K. 1992). With this much emphasis on written work, it is important to provide children with a solid foundation of fine motor skill development. However, this development cannot occur in the school setting alone. It is essential that parents provide their children with multiple experiences that incorporate the development of fine motor skills into their daily lives. To assist with the development of fine motor skills, it is important to ensure that parents receive the support they need to provide their children with these positive experiences.

The purpose of this scholarly project was to explore the literature and design a resource handbook for parents of school-aged children on the importance of fine motor skill development. The goal was to provide the parents with activities to utilize at home for additional handwriting and fine motor skill development. A literature review was conducted to focus on exploring the following information: 1) handwriting development; 2) handwriting difficulties; 3) best practices in handwriting development; 4) best practices in developing parent education training materials; 5) current needs at Heartland AEA and; 6) the role of occupational therapy (OT). The literature review culminated
with the presentation of the proposed resource -- the Occupational Therapy Handbook for Parents (OTHP).

Handwriting Development

Handwriting is a complex task that utilizes a variety of skills for completion. The development of these skills begins during the early stages of a child’s life. Fine motor skills such as reaching, grasping, and intentional release of objects are examples of foundational skills that children begin developing during the first few months of life (American Academy of Pediatrics, 2010; Voress, 1998). These skills continue to develop and refine through the years until a child learns to independently form the letters of the alphabet. Table I. presents a more thorough description of the typical development of fine motor skills from the age of 3 months through the age of six years old.

Table I. Typical Fine Motor and Hand Skills Development

<table>
<thead>
<tr>
<th>Fine motor skills</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holds toy for 10-15 seconds</td>
<td>3-6 months</td>
</tr>
<tr>
<td>Brings hands together when lying on back</td>
<td></td>
</tr>
<tr>
<td>Transfers object from one hand to the other</td>
<td>6-9 months</td>
</tr>
<tr>
<td>Picks up objects using a raking motion</td>
<td></td>
</tr>
<tr>
<td>Intentionally releases objects</td>
<td></td>
</tr>
<tr>
<td>Pokes with index finger</td>
<td>9-12 months</td>
</tr>
<tr>
<td>Claps hands</td>
<td></td>
</tr>
<tr>
<td>Holds onto crayon with whole hand (fist)</td>
<td></td>
</tr>
<tr>
<td>Holds crayon with fingers, hand on top, and thumb pointed downward</td>
<td>12-18 months</td>
</tr>
<tr>
<td>Begins to explore scribbling on paper</td>
<td></td>
</tr>
<tr>
<td>Stacks 2-4 objects on top of each other</td>
<td></td>
</tr>
<tr>
<td>Imitates vertical strokes (I)</td>
<td>18-24 months</td>
</tr>
<tr>
<td>Stacks 4-6 blocks or objects</td>
<td></td>
</tr>
<tr>
<td>Imitates horizontal lines (-)</td>
<td>24-30 months</td>
</tr>
<tr>
<td>Explores play dough (rolling, squeezing)</td>
<td></td>
</tr>
<tr>
<td>Snips edge of paper with scissors</td>
<td></td>
</tr>
<tr>
<td>Imitates circles (O)</td>
<td>30-36 months</td>
</tr>
<tr>
<td>Able to string small beads</td>
<td></td>
</tr>
<tr>
<td>Use scissors to cut along lines</td>
<td>By 48 months (4 years)</td>
</tr>
<tr>
<td>Able to copy square shapes</td>
<td></td>
</tr>
<tr>
<td>Draw a person with three body parts</td>
<td></td>
</tr>
<tr>
<td>Begin to copy uppercase letters</td>
<td></td>
</tr>
<tr>
<td>Completes an 8 piece puzzle</td>
<td>By 60 months (5 years)</td>
</tr>
<tr>
<td>Cuts out simple shapes</td>
<td></td>
</tr>
<tr>
<td>Uses thumb &amp; finger tips to hold pencil</td>
<td></td>
</tr>
</tbody>
</table>
Able to copy right (\(\)) & left (\(\)) diagonals and intersecting diagonals (X)
Able to copy all uppercase and lowercase letters of the alphabet independently

By 72 months (6 years)


As children developmentally progress from scribbling to purposeful letter formation, another important aspect of handwriting is occurring. Pencil grasp development is occurring simultaneously beginning around the age of 1 year old. Table II presents the typical progression of grasp development from age 1 year old through age 6 years old.

Table II. Typical pencil grasp development

<table>
<thead>
<tr>
<th>Grasp</th>
<th>Definition of grasp pattern</th>
<th>Typical age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palmar-supinate</td>
<td>A fisted grasp with the whole hand wrapped around the writing utensil. The child’s thumb is usually pointed upwards</td>
<td>1 year old</td>
</tr>
<tr>
<td>Digital-pronate</td>
<td>Child holds writing utensil with whole fist or fingers, however, forearm is rotated and the thumb is pointed down</td>
<td>2 years old</td>
</tr>
<tr>
<td>Static Tripod</td>
<td>Three to four fingers are positioned on writing utensil. This grasp incorporates more wrist movement to assist with fine motor control.</td>
<td>3.5 to 4 years old</td>
</tr>
<tr>
<td>Dynamic Tripod</td>
<td>Thumb &amp; index finger pinch the writing utensil while it rests on the middle finger. This grasp allows for more precise movements with greater speed and flexibility.</td>
<td>By 6 years old</td>
</tr>
</tbody>
</table>


Handwriting readiness skills include muscle development, hand dominance, appropriate pencil grasp, visual-motor integration, and the ability to make basic pre-writing strokes (Feder, 2007; Naus, 2000). Fine motor control is necessary to allow for successful control of writing utensils during letter formation and placement (Feder, 2007). In-hand manipulation is also considered a fine motor skill that is essential for writing tasks. In-hand manipulation allows a child to adjust the pencil as needed during the writing task and to allow for efficient and appropriate letter formation (Feder, 2007).
Visual-motor integration is another essential skill for handwriting success. This skill involves the child’s ability to look at something and then provide a motor response. For example, when copying letters of the alphabet, a child needs to be able to look at the letter in front of them and create that same image using the motor skills necessary to write the same letter (Feder, 2007). Previous research by Weil and Amundson (1992) has shown that the ability to copy geometric forms used in the Developmental Test of Visual-Motor Integration (i.e. horizontal line, vertical line, circle, cross, right and left diagonals, square, intersecting lines, and triangle) can be a predictor for handwriting readiness.

Additional skills that should be present include letter recognition, interest in writing activities, and sustained attention (Feder, 2007; Naus, 2000). Initiating handwriting instruction prior to the development of these skills may lead to handwriting difficulties. This is turn may lead children to have negative feelings towards writing tasks and lead to task avoidance (Vander Hart et al, 2009).

Handwriting Difficulties

Handwriting is an essential skill for students throughout their educational experiences. This skill is one that is used across all subject areas to demonstrate a student’s knowledge and understanding of the information being taught through papers, tests, and daily assignments. Even in this technology era, students are required to spend a majority of their school day completing writing and fine motor tasks (Vander Hart et al, 2009). Therefore, when children have difficulty completing handwriting tasks, it can significantly impact their educational success. As discussed previously, there are multiple skills required for handwriting success, and therefore there are many factors that can lead to handwriting difficulty.
Hand muscle development is one of the biggest prerequisites for successful letter formation and legible handwriting. Children that have decreased fine motor control have difficulty with letter formation, positioning letters correctly on lined paper, and spacing letters and words correctly (Wehrmann et al, 2006). Students with these coordination deficits may also have difficulty in other classroom expectations such as scissor skills, tying shoes, self-care fasteners, opening milk containers, (Wehrmann et al, 2006). The concern is that the challenges and frustration these children face may lead to a negative self-esteem and avoidance of these tasks. Therefore early intervention is essential to promote a positive self-esteem and assist these children towards fine motor and handwriting success (Ratzon, 2007; Rule, 2002; Wehrmann et al, 2006).

In-hand manipulation skills are necessary for a student to effectively complete handwriting tasks as well as numerous self-care tasks (Rule, 2002). Without these coordination skills, students are unable to grasp, manipulate, and control the writing instrument during handwriting tasks (Naus, 2000). They may also be unable to manipulate clothing fasteners such as buttons and zippers, opening milk cartons, and tying shoes. This is an area that parents as well as teachers can facilitate development by providing a variety of fine motor and in-hand manipulation play activities for the child to engage in prior to the initiation of handwriting instruction.

By the time children reach school age, they should begin using a static or dynamic tripod grasp (Naus, 2000). A static tripod grip occurs when three or four fingers are positioned on the writing utensil. The grip becomes dynamic when the thumb and index finger pinch the writing utensil while it rests on the middle finger (Naus, 2000). Use of a tripod grasp is going to assist with handwriting efficiency during letter formation. The
concern of using a fisted grasp or static tripod grasp as children mature is that these grasps require more shoulder movement. This can lead to increased arm fatigue and does not allow for precise movements required with letter formation. (Naus, 2000)

Visual-motor integration is another skill area that is essential for handwriting development. Having the ability to look at a figure and be able to copy it is an essential aspect of learning to write. Therefore visual-motor problems may cause difficulty with a child’s ability to effectively grasp handwriting skills (Ratzon, 2006).

Best Practices in Handwriting Development

Handwriting plays an important role throughout a student’s educational experience. It has been found that having formal instruction in letter formation has a positive impact on the development of handwriting skills (Asher, 2006). It is also important to ensure that developmentally appropriate instruction is being provided (Daly, 2003). Handwriting instruction should begin at a young age before negative habits are formed. Therefore many schools include handwriting in the kindergarten grade-level curriculum (Vander Hart et al, 2009).

A recent study has shown that most primary school teachers provide handwriting instruction and 80% of school districts require formal instruction (Graham, 2008). It is also important to provide each student with consistent instruction (Marr, 2002), stressing the need for parents to be provided with the same letter formation strategies. This allows for consistent carryover of student learning if parents choose to practice handwriting skills at home (Asher, 2006).

Several teachers’ strategies have been found to be effective methods of handwriting instruction for students of varying academic levels including those with
handwriting difficulties and special needs (Vander Hart et al, 2009). Some of the most effective methods, practiced by teachers today, include frequent/daily lessons, direct and explicit instruction, modeling, guided practice, use of feedback, independent practice, and integrated lessons.

Providing frequent/daily lessons allows students to have multiple practice opportunities as they learn this new skill. It is recommended that students receive 50-100 minutes of instruction per week (Graham, 2010). Repeated practice opportunities will improve the automatic formation of letters, and will eventually lead to smooth and efficient letter formation and handwriting skills (Graham, 2008). Asher’s (2006) research also supports the theory that frequent blocked practice is more efficient than random practice and handwriting instruction.

Most teachers and researchers agree that direct and explicit instruction that provides systematic instruction is important to successful handwriting development. These lessons should allow for individual letter formation instruction with adequate time for teachers to explain the formation strokes and similarities and differences between the letters (Vander Hart et al, 2009). There are currently a variety of handwriting curriculums available, but no significant evidence is present to determine that one program is more efficient than another (Graham, 2008). Modeling is an effective technique used by teachers during the direct and explicit instruction (Vander Hart et al, 2009). This occurs, for example, when demonstrating correct letter formation for students, and then providing the student’s the opportunity to copy following the demonstration.
Guided practice is another frequently used method of handwriting instruction. This includes the teacher providing verbal directions to the students as they practice writing (Vander Hart et al, 2009). This method may include tracing the letters, copying the letters, following dotted lines or arrows, and/or hand over hand assistance from the teacher (Graham, 2008). Guided practice also allows teachers the opportunity to provide immediate feedback to students regarding their letter formation and handwriting progress. Encouraging students to review their writing to identify and correct any poorly formed letters will assist them in learning to recognize errors independently (Asher, 2006; Vander Hart et al, 2009). Providing immediate feedback and praise are important strategies as well to increase students’ confidence with their writing skills (Vander Hart et al, 2009).

While providing guided practice is an important strategy, allowing students multiple opportunities for independent practice is essential to handwriting development as well. This can be completed through classroom writing assignments and journaling activities. Encouraging students to independently review their work to identify their best letters promotes self-confidence in the students’ writing skills (Vander Hart et al, 2009). Independent practice time also allows the opportunity for students to work on their fluency as well. Graham (2010) recommends having students copy a short paragraph multiply times, working to decrease the amount of time required to copy each time.

Integrating handwriting instruction within the school day is another method recommended to increase handwriting practice. Offering feedback and instruction as it naturally occurs during reading and other subjects allows students to continue to be aware of their handwriting beyond the direct handwriting instruction period (Vander Hart et al,
In the early elementary years incorporating writing activities into classroom centers provides additional independent writing practice and opportunities for integrated instruction as well.

Providing direct instruction that includes the adult appropriately modeling correct letter formation, pencil grip, etc. is one of the most frequently used method of instruction (Graham, 2008). Unfortunately some of the most effective methods of instruction are not commonly used in the classroom. Vander Hart et al's (2009) study found that the teachers did not ask students to self-review or correct their writing. There also was not consistent emphasis on writing from memory or improving writing fluency (Vander Hart et al, 2009). Utilizing these methods of instruction have been found to be effective tools and should be incorporated into handwriting instruction to promote student achievement (Vander Hart et al, 2009).

Handwriting instruction needs to incorporate more than just letter formation and position of letters on the paper. Education regarding how to grasp a pencil, position the paper on a desk, and use the non-dominant hand to stabilize the writing surface needs to be provided as well (Vander Hart et al, 2009). Research completed by Rosenblum, Goldstand, & Parush (2006) found a significant difference between the biomechanical ergonomic factors of pencil grasp, body position, pencil positioning, and consistency of grip between proficient and non-proficient writers. These findings emphasize the importance of incorporating these skills into handwriting instruction and evaluation of underlying causes of handwriting concerns (Rosenblum, Goldstand, & Parush, 2006).

After initial handwriting instruction has begun, some children continue to struggle with handwriting tasks. When the concerns are due to difficulty with letter formation,
pencil grasp or pressure, or decreased fine motor control; students are often referred to school-based occupational therapy services. (Marr & Cermak, 2002, Graham, 2010). It is important to begin early intervention with these students in order to decrease the risk of additional academic problems, decreased self-esteem, and dislike towards all writing activities (Wehrmann et al et al 2006).

Best Practices in Developing Parent Education Materials for Handwriting

Providing parents with resources to assist their child’s fine motor development is the primary reason for the development of the OTHP. A study completed by Dunsmuir and Blatchford (2004) looked at what factors had the greatest influence on a child’s handwriting development. Their study concluded that home writing practice during the preschool years continued to have a significant impact on a child’s writing development at age 7 (Dunsmuir & Blatchford, 2004). Providing parents with the background knowledge and resources to assist with these skills can assist in the children’s fine motor and handwriting development.

Parent education should include background information regarding what typical fine motor skill development is as well as ways to promote skill development in the home environment. Information regarding the school’s current handwriting curriculum, examples of paper to practice with, and developmentally appropriate activities to practice these skills should be included. One excellent resource example is Donna Young’s Homeschool Resources and Printables website (www.donnayoung.org) where a wide variety of resources are available for parents. The website includes multiple handwriting worksheets from beginning manuscript through cursive writing. Paper samples are
included as well as additional recipes and suggestions for parents to include with handwriting and fine motor activities.

**Current Needs at Heartland AEA**

Currently parents of school-aged children, in the school districts served by Heartland AEA 11 occupational therapists, do not receive consistent information regarding handwriting and fine motor development. Expectations of parent involvement and how they can promote fine motor development are not communicated with parents until a problem arises. Communication with parents fluctuates depending on how involved the parents want to be and how comfortable they are with asking questions regarding their child’s development. There is also inconsistent information regarding the importance of carry-over in the home environment as well as the school setting.

For some children, additional support through special education programming may be necessary for successful handwriting in the school setting. In this instance a child may be referred to the school-based occupational therapist for additional special education assessments.

**Role of OT**

*Academic Preparation*

OT programs provide preparation of a variety of skills and knowledge base to provide effective services with all ages regarding fine motor, self-care skills, and leisure skills development. Accredited occupational therapy programs include specific Accreditation Council for Occupational Therapy Education (ACOTE) standards that require OT students to receive education and training in the area of pediatrics. These standards include education regarding pediatric fine motor and handwriting skill
development. These programs also include the science-based courses to provide the therapists with a strong knowledge base regarding anatomy, physiology, and kinesiology.

OT in the School Systems

Children in the schools are often referred to occupational therapy for a variety of reasons. Common concerns include weak hand muscles, decreased in-hand manipulation skills, decreased overall upper extremity strength, and decreased visual perceptual skills. These skill deficits then impact student's occupational performance in the areas of letter formation, immature pencil grasp, letter placement, and scissor skills (Frolek-Clark, 2004).

Currently occupational therapy services in the schools incorporate a variety of approaches and intervention techniques. School-based therapists provide both direct and consultative occupational therapy services. The main intervention techniques used include therapeutic use of occupation and activities, the education process, and the consultation process. Occupation-based intervention, purposeful activity, and preparatory activities are the primary ways therapeutic use of self is implemented in the school setting. These may include fine motor coordination activities, hand and upper extremity strengthening tasks, completion of journal and/or classroom writing assignment, and repeated practice of letter formation, scissor skills, etc.

The most frequently utilized intervention approaches as defined in the Occupational Therapy Practice Framework: Domain and Process, 2nd Edition (AOTA, 2008) are establish and modify. The intervention approaches focus on creating new skills such as legible handwriting, improved scissor skills, and letter placement. Treatment approaches also focus on modifying writing requirements for students, adapting the
pencil grip or paper used to complete assignments, and other modifications deemed appropriate for the student to achieve success in the classroom. Additional interventions are also used to improve overall strength and coordination to complement improved handwriting.

Throughout this process, however, there is not a systematic method of supplying parents with vital information regarding ways they can assist their child with handwriting and fine motor development. Expectations of parent involvement with OT services are not clearly stated. Communication with parents fluctuates depending on how involved the parents want to be and how comfortable they are with asking questions regarding their child’s development. There is also inconsistent information regarding the importance of carry-over in the home environment as well as the school setting.

Proposed Program

Purpose/Rationale

There is a need for information that will incorporate fine motor and handwriting tasks into the home routine. The overall goal of the OT Handbook for Parents (OTHP) is to develop children’s handwriting skills through increased parental support. Parents will have the support and knowledge they need to help reinforce the handwriting skills children are being taught in school as well as emphasizing the importance of additional practice in the home setting. It will also provide information regarding the roles of parents, students, and occupational therapists.

Target Audience

The intended target audiences include: the parents of the school-age children and teachers in the school districts served by Heartland AEA. Initially the OTHP will be
provided to all parents of preschool-aged children at Dallas Center-Grimes Community School District when they attend the enrollment parent meeting in preparation for the upcoming school year. The OTHP will be presented to the school personnel at other districts served by Heartland AEA to be utilized by their parents as well, if the districts are interested.

Use

The handbook provides parents with a review of handwriting expectations, fine motor skills required, and home activities that can support children’s handwriting development. The handbook also includes play activities that can be incorporated into the family’s daily routine. In addition, free online resources are listed to provide parents with multiple opportunities to assist in their child’s development. The primary occupational therapist’s contact information will be provided in the handbook to encourage parents to contact the OT with follow-up questions and further assistance. The OTHP was designed based on the literature review, the occupational therapist’s experience, and expectations with parental and school personnel’s input.

Theoretical/Model Framework

The Ecological Model of Occupation (EMO) was chosen to support the development of this project because of the collaborative approach used; impact context has on performance, and the focus on successful completion of tasks. It was anticipated that providing parent education would increase the amount of developmental support children received from parents. The emphasis on a collaborative approach was vital with the development of the OTHP, as input was needed from parents, school personnel, and occupational therapy staff. Use of this framework provides intervention strategies that
are designed to allow parents to feel more competent and successful when implementing handwriting/fine motor tasks at home. The EMO is designed to work with individual clients as well as populations, and therefore it was appropriate to apply to the population-based assessment and intervention strategies needed for the development of the Occupational Therapy Handbook for Parents.

A potential limitation includes the challenge of utilizing a client-centered framework with a very diverse population. The OTHP will be provided to parents in a school district with diverse educational and cultural experiences. One of the school districts that will have access to the OTHP has a large Spanish-speaking population. Therefore it was necessary to ensure that the translated version is available that provides the same information.

The Ecological Model of Occupation utilizes the framework of the Ecology of Human Performance. It focuses on the constructs of person, task, context, and performance. The emphasis on context allows for an expansion of intervention approaches (Dunn, 2007) and interaction between these constructs is continuous. The person is surrounded by various contexts, and together they determine which tasks to engage in which leads to the individual’s performance (Kramer, 2003).

The following steps demonstrate how the Ecology of Human Performance framework was used to guide the development of the OTHP assessment and intervention process (Kramer, 2003).

1. Prioritize wants and needs:
   - The occupational therapist and school staff wanted to develop an educational resource for parents of students with fine motor and/or
handwriting concerns. It was desired to improve handwriting skills and increase parental involvement in this process through increased carryover at home.

- Parents wanted additional information regarding ways to assist their children with fine motor skill development and to support their children’s educational success.

- Students need multiple practice opportunities to learn a new skill. Students also need consistent instruction when learning a new skill such as the same verbal cues used for letter formation.

2. Analyze prioritized tasks:

- An extensive literature review was completed to determine the most common handwriting and fine motor concerns noted by educational professionals. The literature review also looked at the benefits of parental involvement, and ways for parents to assist with handwriting and development.

- A review of school expectations including district and state of Iowa standards and benchmarks regarding fine motor development and handwriting was completed. The review included information regarding school districts’ handwriting expectations and strategies utilized in the classrooms.

- Parents often verbalize a willingness to assist with carryover of school instruction in the home environment; however, many do not feel they have the resources necessary to provide appropriate instruction.
Parents would like access to ideas and tools to assist their children in being successful.

3. Evaluate performance:

- Currently parents with specific fine motor or handwriting concerns receive verbal information regarding what occupational therapy is and the role OT plays in the school setting. Parents may be shown written examples of their child’s handwriting and a peer’s for comparison. Suggestions for writing and fine motor activities that can be completed at home are offered to some parents, however, this is inconsistently provided due to time constraints.

- Ideal parental education includes written information regarding occupational therapy services that parents can refer back to as needed. A written resource for parents with exercises and activities included allows parent’s access to a variety of activities that they can work on with their child.

4. Evaluate the contexts:

- The handbook will be used to provide parental education and guidance for improving their children’s handwriting and fine motor skills. The context for use of the handbook will be the school and home settings by parents, occupational therapists, teachers, and students. The specific context data can be seen in Table III.
Table III. Context Data for the OT Handbook for Parents

| Physical Context | • Contains definitions of OT & the roles team members play  
|                  | • Includes fine motor exercises & handwriting activities to assist in development of skills  
|                  | • Common household items will be included within the lists of fine motor activities  
|                  | • The handbook will be used in the school and home setting. Teachers will have access to the information to incorporate into the classroom and parents will be able to utilize the information at home.  
|                  | • The handbook will include colored pictures for visual appeal and descriptions  
| Social Context   | • Includes descriptions and visual explanations of activities that can be incorporated into daily routines (i.e. squeezing water bottle to water plants = strengthening activity)  
|                  | • Designed to support parents as they begin the OT process by providing encouragement and guidance regarding ways they can assist their child and the school  
|                  | • The school occupational therapist’s contact information will be included to encourage parents to contact the therapist with any questions  
| Cultural Context | • Will be used by individuals from diverse backgrounds  
|                  | • Will be offered in English and Spanish translations  
|                  | • Information will be presented in written and visual format with short/simple descriptions to meet the needs of parents of various educational backgrounds  
| Temporal Context | • Lists activities in order based on difficulty of the tasks  
|                  | • Information regarding typical fine motor development age-expectations will be included  
|                  | • Includes recommendations of how often activities should be completed  
|                  | • Space will be included for parents to add notes & information sent home from the OT and/or school during the intervention process.  


5. Evaluate the person/population variables:

   It was important to consider the characteristics of the individuals using the handbook including developmental milestones of when children are able to complete the activities included in the handbook. It was also important to reflect on the adults’ abilities as well since the handbook was designed for parents. For example, time constraints could be a huge barrier to completion of additional activities at home due to parents work schedule so the OTHP needed to include activities that required varying amounts of time and materials. Pictures were also included in the handbook to assist with parental and student understanding. Literacy level of the OTHP was also considered in the design.
6. Develop goals and choose intervention strategies for identified priorities as presented in Table IV.

Table IV: Intervention Strategies for the Occupational Therapy Handbook for Parents

<table>
<thead>
<tr>
<th>Performance</th>
<th>Establish/Restore</th>
<th>Alter</th>
<th>Adapt</th>
<th>Prevent</th>
<th>Create</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent parent education</td>
<td>Develop clear definitions of role of OT, school staff, &amp; parents during OT intervention &amp; include in handbook in written format for parents to refer to as needed</td>
<td>The handbook offers consistent written and visual instruction to parents. Parents receive the same resources.</td>
<td>OT will speak at kindergarten and preschool parent meetings to explain importance of fine motor skills &amp; increased exposure in the home environment at the elementary schools</td>
<td>OT will develop parent information/support groups to review the OT handbook, answer questions, &amp; collaborate regarding ways to assist children with fine motor &amp; handwriting at home</td>
<td></td>
</tr>
</tbody>
</table>

| Increased exposure to handwriting & fine motor activities | Educate parents on importance of increased exposure & provide activity suggestions to increase their knowledge and comfortable level with completing them | Use handbook to provide "real-life" examples of daily activities children could do to incorporate fine motor into the family's daily life. (i.e. have child close Ziploc bags when making school lunches). | Education provided to all parents of school-aged children to assist with fine motor development. This resource provides parents with strategies to promote development before concerns are noted in the school setting. | Create effective and time-efficient "homework" activity packs with classroom teachers to checkout to students. These would go home with students to be completed with parents & returned to school. |                                                                 |

The Occupational Therapy Handbook for Parents (OTHP)

*Organization of the Handbook*

The Occupational Therapy Handbook for Parents (OTHP) was divided into three sections as presented in the following:

- Section I provides a definition of typical fine motor development and activities that parents/caregivers can complete in the home setting. These activities are primarily
tasks that can be implemented into the family’s daily routine or playtime. Pictures are included with written explanations to allow for increased understanding of the requested tasks by the parents and student. The activities are numbered and organized according to the skills being addressed. This allows the OT to reference a specific activity through a note or phone call for parents to focus on at home.

- Section II focuses on correct letter formation. This section uses the same verbiage as the school district’s handwriting curriculum. Providing parents with the same verbal instructions will increase consistency between the home and school settings, thus improving handwriting through extra practice time. Additional strategies regarding ways to practice letter formation beyond use of a pencil and paper are included to provide parents with ways to make handwriting practice fun for everyone involved.

- Section III includes information additional supports available for fine motor development. This includes a definition of occupational therapy and the role of occupational therapists in the school setting. It reemphasizes the positive impact parents can have on their children’s fine motor and handwriting development. A brief explanation regarding the initiation and discontinuation of school-based occupational therapy services is also included.

Implementation

After the school personnel within the Dallas Center Grimes Community School District review the OTHP, an in-service will be held with teachers regarding the purpose and anticipated implementation. The handbook will then be provided to parents of student’s currently receiving OT services for fine motor/handwriting concerns so parents can begin using it. It will also be presented to parents at future preschool parent
meetings. Once the OTHP is in place, parents will have access to fine motor and handwriting activities in one central location.

Summary

The OTHP will provide parents with multiple resources to promote fine motor and handwriting development for their children. For children receiving school-based occupational therapy, it provides an efficient way for the OT to suggest additional activities. The therapist can communicate with parents which activities to implement knowing the parents have written information/directions available. It is anticipated that parents will feel more comfortable providing additional exposure to fine motor and handwriting activities at home when they have a better understanding of the expectations the school has regarding these skills.

The product is included in its entirety in Chapter IV, while Chapter III presents the methodology used to design the product.
CHAPTER III

METHODOLOGY

The development process of this scholarly project began upon the OT student’s employment with Heartland Area Education Agency. As the school year progressed, numerous referrals were received for preschool and Kindergarten-age students with poor fine motor skills. Often a lack of exposure to fine motor activities was apparent. Therefore these children faced greater challenges in the classroom with fine motor and handwriting activities. When meeting with parents, a common question was asked, “What can I do to help my child?” It became apparent that most parents were willing to help promote their child’s fine motor development, but lacked the resources to do this on their own. If a parent-friendly resource was available with suggestions and information, then parents would be able to carryover the fine motor and handwriting skills children were learning in preschool and early elementary.

After recognizing this need, the OT student felt it was important to develop a parent handbook to fill this educational void. A thorough literature review was completed to determine what fine motor skills are needed for successful handwriting. The literature review also looked at research regarding handwriting development, handwriting difficulties, best practices in handwriting development, and best practices in developing parent education training materials. This led to further review of current research regarding the role occupational therapists have in the school setting. Current
studies have shown that a collaborative approach between occupational therapists and teachers is the growing trend. However, teachers have expressed concern over inconsistent communication received from school-based OT’s (Spencer, K. C.; Turkett, A.; Vaughan, R.; & Koenig, S.; 2006).

After reviewing the current research regarding fine motor and handwriting development, the OT student examined the current referral process for occupational therapy services within Heartland AEA Region 4. The OT student discovered that there was not a consistent means of communication with parents regarding fine motor development. Information was presented upon parent request after a referral had been received. It became clear that a more proactive approach to fine motor development would be beneficial to the students, parents, teachers, and occupational therapy personnel.

Providing parents access to the reference tool would increase their understanding of the importance of strong fine motor skills in their child’s self-care and academic independence. Providing teachers with this resource would provide them with additional fine motor strategies to use in the classroom. Knowing that parents have received a copy of the handbook would also allow teachers to encourage its use when they first notice a potential fine motor concern. Implementation of the OTHP would provide the OT’s with a consistent and efficient means of communication with parents and teachers. When an OT is asked for a few suggestions regarding a child’s fine motor skills, he or she can easily reference the OTHP with appropriate activities for the parents and children to work on. Most importantly, promoting a proactive approach would assist with children’s fine motor development before a delay is discovered. By preventing some of the potential
delays, more children would experience success in the classroom fine motor and handwriting activities rather than trying to increase their strength and coordination after school has begun.

The development of the OTHP was based on the current research literature regarding the best practices for developing training materials for parents. It also incorporates previous research regarding typical fine motor and handwriting skills development. The handbook was prepared for parents of preschool and early elementary age children in the Heartland AEA Region 4 school districts. It will, however, be accessible by all occupational therapists employed by Heartland AEA to use for parent education as deemed fit. Directions were included for parents regarding the application of the material included in the OTHP. Additional resources including researched based Internet sites were included for additional information and activities that parents could access. Through implementation of this product, it is anticipated that more parents will feel they have resources available to allow them to assist in their child’s fine motor and handwriting skills development.
CHAPTER IV

PRODUCT

The purpose of this product is to promote the proactive development of fine motor skills in preschool-aged children to enhance the children’s success with handwriting skills in the classroom. The product is to be distributed by the occupational therapist serving the school districts of Heartland AEA. It will be distributed to all parents of preschool-aged children. It will also be provided to preschool and early elementary teachers in the school districts as a resource in the classroom.

The Occupational Therapy Handbook for Parents has been designed to promote fine motor skill development by increasing parent knowledge of ways to assist their child with developing these skills. The OTHP provides ideas of activities that parents can complete with their children as part of their daily routine as well as play-based activities. The OTHP also provides parent education regarding handwriting skills development, the importance of repeated practice opportunities, and information regarding additional handwriting resources available on the Internet. Finally information regarding occupational therapy services in the school setting is provided for parents who have additional concerns regarding their child’s fine motor and handwriting development.

The objectives of the Occupational Therapy Handbook for Parents are:

1. To assist parents in identifying typical fine motor development skills for preschool-aged children
2. To increase parental awareness of the importance of consistent participation in fine motor activities preschool and early elementary-aged children at home.

The Occupational Therapy Handbook for Parents is organized into three separate sections: fine motor skills, handwriting, and occupational therapy services. Each section is clearly marked and the pages are numbered for ease of reference. Each section includes a definition and explanation of its topic. The fine motor skills and handwriting sections also include examples of activities that can be completed with the children on a regular basis. The occupational therapy services section provides a brief overview of the role of school-based occupational therapy services, the process involved with referrals and qualifying for OT services, and contact information for parents that have additional questions.

The Occupational Therapy Handbook for Parents is included in its entirety with this chapter. Chapter V includes a summary of findings, conclusions, and recommendations.
Occupational Therapy Handbook for Parents

Fine Motor Fun at Home

Kristen Rosenbeck, MOTS
Advisor: Dr. LaVonne Fox
May 2011
# Table of Contents

Introduction ....................................................... Page 3
Purpose of the Handbook ........................................ Page 3
How to use the Handbook ........................................ Page 3
Fine Motor Skills .................................................... Page 4
What are Fine Motor Skills? .................................... Page 5
Typical Development ............................................. Page 6
Fine Motor Activities at Home ............................... Page 8
  Daily Routine ................................................... Page 9
  Play Time Activities ........................................... Page 10
Handwriting .......................................................... Page 12
  Prewriting Strokes ........................................... Page 13
  Letter Formation ............................................. Page 14
Additional Resources ............................................. Page 16
Occupational Therapy Services ............................... Page 17
  Definition ....................................................... Page 18
  School-based OT ............................................. Page 18
  Requesting OT Services .................................... Page 19
Conclusion .......................................................... Page 20
References .......................................................... Page 21
Introduction
Welcome to the Occupational Therapy Handbook for Parents. This handbook was designed to help you and your child develop fine motor skills to prepare for future handwriting success in school.

Purpose
This handbook was created to help explain typical fine motor and handwriting development. It also gives you activities that you can do with your child to help them develop their skills. Finally it provides ideas of who to contact if you have concerns or questions about your child’s fine motor skills.

How to Use the Handbook
Reading through the handbook is the first step! It gives you definitions and examples of fine motor skills, handwriting skills, and occupational therapy services. You will see that it also includes examples of different activities and games you can play with your child to improve their hand skills. After reading through the handbook, it’s time to put it to action. Try having your child complete 1 or 2 fine motor or handwriting activities a day for several days a week. If you miss a day or two, that’s okay...just try to get back into the routine. The most important thing to remember is to make sure you and your child are having fun!
Fine Motor Skills
What are Fine Motor Skills?

Fine motor skills are small muscle movements of your hands, wrist, and fingers.

These muscles work together so your child can use his or her hands for daily activities such as fastening buttons or zippers on clothing, using a spoon or fork at mealtime, coloring pictures, and cutting papers.

Fine motor skills include grasping or pinching things. They also include in-hand manipulation such as moving a coin from your palm to your fingertips.

Problems with fine motor skills can affect a child’s ability to complete daily activities such as play, coloring, cutting, buttoning, and holding silverware.

Some children resist doing these fine motor activities because it can be hard for them and require more patience. These children may want to avoid these activities because they are hard to do.

It is important to continue to provide your child with the chance to do these activities so your child becomes more confident and independent.
Typical Fine Motor Development
Ages 3 months – 18 months

Children begin developing fine motor skills at birth. The following chart lists a few fine motor skills and the age children are usually able to do them. These tables are included to give you and idea of what ages your child may begin to have these skills as well as give you ideas of activities you can try with your child.

<table>
<thead>
<tr>
<th>Fine motor skills</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holds toy for 10-15 seconds</td>
<td>3-6 months</td>
</tr>
<tr>
<td>Brings hands together when lying on back</td>
<td></td>
</tr>
<tr>
<td>Transfers object from one hand to the other</td>
<td></td>
</tr>
<tr>
<td>Picks up objects using a raking motion</td>
<td>6-9 months</td>
</tr>
<tr>
<td>Intentionally releases objects</td>
<td></td>
</tr>
<tr>
<td>Pokes with index finger</td>
<td></td>
</tr>
<tr>
<td>Claps hands</td>
<td>9-12 months</td>
</tr>
<tr>
<td>Holds onto crayon with whole hand (fist)</td>
<td></td>
</tr>
<tr>
<td>Holds crayon with fingers, hand on top, and thumb pointed downward</td>
<td>12-18 months</td>
</tr>
<tr>
<td>Begins to explore scribbling on paper</td>
<td></td>
</tr>
<tr>
<td>Stacks 2-4 objects on top of each other</td>
<td></td>
</tr>
</tbody>
</table>
Typical Fine Motor Development
Ages 2 years – 6 years

This table provides a list of skills for older children. It also has the age that most children are able to do them. You can use this as a guide to help you determine if your child is staying on track with fine motor development. The skills listed also give you ideas of activities you can work on with your child to help them develop these skills.

<table>
<thead>
<tr>
<th>Fine Motor Skills</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imitates horizontal lines (-)</td>
<td>2 years – 2 ½ years</td>
</tr>
<tr>
<td>Explores play dough (rolling, squeezing)</td>
<td></td>
</tr>
<tr>
<td>Snips edge of paper with scissors</td>
<td></td>
</tr>
<tr>
<td>Imitates circles (O)</td>
<td>2 ½ years – 3 years</td>
</tr>
<tr>
<td>Able to string small beads</td>
<td></td>
</tr>
<tr>
<td>Use scissors to cut along lines</td>
<td></td>
</tr>
<tr>
<td>Able to copy square shapes</td>
<td>By 4 years</td>
</tr>
<tr>
<td>Begin to copy uppercase letters</td>
<td></td>
</tr>
<tr>
<td>Cuts out simple shapes</td>
<td></td>
</tr>
<tr>
<td>Uses thumb &amp; finger tips to hold pencil</td>
<td>By 5 years</td>
</tr>
<tr>
<td>Able to copy right () &amp; left (/) diagonals and</td>
<td></td>
</tr>
<tr>
<td>intersecting diagonals (X)</td>
<td></td>
</tr>
<tr>
<td>Able to copy all uppercase and lowercase letters of</td>
<td>By 6 years</td>
</tr>
<tr>
<td>the alphabet independently</td>
<td></td>
</tr>
</tbody>
</table>
Helping your child practice these skills throughout your daily activities is a great way to help your child develop fine motor skills.

You can do this by asking your child to help you with daily tasks such as opening and closing sandwich bags or putting the lid on the toothpaste.

Try to develop a routine of having your child help you with these activities everyday. By doing this daily your child will get a lot of practice, and it will become a habit for the entire family.

If your child becomes frustrated or upset, help your child complete the task. Continue to encourage fine motor practice, however, it may help to try a different activity the next day.

The next page provides a list of various ways you can work on fine motor skills during your daily activities. These activities are just a sample of things you and your child can do to help develop their fine motor skills.
Daily Routine Activities

Open and close twist jars/lids (i.e. peanut butter jar, toothpaste lid, milk carton)

Open and close flip-top lids (i.e. ketchup)

Use spray bottle to water plants, wash mirrors, or windows

Pick up coins off the table and put into coin purse or bank

Twist wire twist ties on/off bread wrapper

Turn knobs to adjust controls on radio, open & close doors

Open junk mail and tear up paper

Rolling with a rolling pin

Cutting out cookie dough with cookie cutters

Wipe off counters or table with washcloth or sponge

Wring out washcloth and/or sponge

Squeeze clothespins to hang up clothes

Encourage your child to zip zippers, fasten buttons, snaps, etc.

independently

Have your child stir batter (example: pancake mix, cookie dough)

Open and close Ziploc bags
Fine Motor Play Time

You can also help your child develop fine motor skills during playtime. There are many playtime activities that use fine motor skills such as coloring and playing with Legos.

To make it more fun for your child, include activities that your child likes to do. For example, have your child color pictures of his or her favorite cartoon character or help him or her build something with Legos. If your child is having fun with the activity, then he or she is more likely to be willing to continue it.
Play Time Activities

Pop bubbles with index finger

String beads or macaroni noodles onto a string

Pick up small objects with tweezers (beans) & put in container

Make a “bird’s nest” (pinch play dough into a nest shape) & fill with “eggs” (small balls of play dough)

Trace around lines with finger then color in coloring books

Crumple paper into a small ball and throw it into a wastebasket

Stamps and stamp pads with variety of sizes of small handles to encourage different pinch patterns

Pop bubble wrap with thumb & two fingers

Build structures using toothpicks and marshmallows

Spin checkers or coins on tabletop

Push doorbells, push-button toys, keyboards, rotary phones

Play “Simon Says” (touch fingertip to thumb, open & close hands, etc)

Draw a picture and have children glue yarn onto the lines

Use broken crayons to encourage correct grasp (not a fist)

“Fine Motor Toys” – tops, Tinkertoys, Legos, Duplo blocks, wind-up toys, finger-paint
Handwriting
Prewriting Strokes

Children need to be able to draw simple lines and shapes before they are able to learn to write letters. These prewriting strokes and the age that most children are able to copy them are listed below.

Before your child begins writing letters, ask them to copy these shapes. If they have trouble copying, then you should work on these lines and shapes first. If a child has difficulty forming a diagonal line, for example, then they would have difficulty forming the letter “A”.

<table>
<thead>
<tr>
<th></th>
<th>Vertical Line (Line down)</th>
<th>Horizontal Line (Line across)</th>
<th>Circle</th>
<th>Cross</th>
<th>Right Diagonal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>2 yrs-10months</td>
<td>3 years</td>
<td>3 years</td>
<td>4 yrs-1 month</td>
<td>4 yrs-4 months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Square</th>
<th>Left Diagonal</th>
<th>Intersecting Lines</th>
<th>Triangle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>4 yrs-6 months</td>
<td>4 yrs-7 months</td>
<td>4 yrs-11 months</td>
<td>5 yrs-3 months</td>
</tr>
</tbody>
</table>

13
Letter Formation

Most children will begin to learn how to form their letters in Kindergarten. Practicing at home too will help your child improve his or her writing skills.

There are many ways you can help your child learn to form the letters correctly. For example:

- Your child can form letters with Play-dough
- You can write a letter with a highlighter, and then have your child trace it
- You can write a letter and then have your child write it

Children spend a lot of time writing at school. So when you practice writing at home, try to keep it fun. For example:

- Practice writing the names of family members
- Send a card to a grandparent, and have your child write the letters he or she is familiar with

There are many different ways to teach handwriting. The directions given, the type of paper used, and the order that letters are taught can be different depending on your child’s school and teacher. It is best if you contact your child’s teacher to find out how they teach handwriting skills, so that you can follow the same pattern at home. This will make it easier on your child.
This is an example of typical uppercase and lowercase letter formation.
You can use this to help show your child how to correctly form the letters of the alphabet.

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
a b c d e f g h i j k
l m n o p q r s t u v
w x y z
ADDITIONAL RESOURCES

There are a variety of resources on the Internet to help you and your child with developing fine motor and handwriting skills. This list includes several resources that provide examples of letter formation, paper samples, and tips for parents.

Donna Young’s Homeschool Resources and Printables
www.donnayoung.org/index.htm

Handwriting Without Tears
Parent Extras
www.hwtears.com/parents/parentextras

First School Preschool Activities and Crafts
www.first-school.ws/preschool/printable-activities/index.htm
OCCUPATIONAL THERAPY SERVICES
OCCUPATIONAL THERAPY (OT)

Definition
Occupational Therapy is a profession that helps individuals achieve greater independence with their daily living skills such as self-care (getting dressed, feeding yourself), work, and play skills.

School-Based Occupational Therapy
In the school setting, OT’s help students who have problems with weak hand muscles, difficulty with fine motor skills, and difficulty with visual perceptual skills.

If there are problems with these skills, then students’ may have difficulty writing letters, holding their pencil correctly, placing the letters on the lines correctly, and/or using scissors to complete school tasks.

The occupational therapists work with the students and teachers. They provide ideas for the students to work on to build their strength and improve their fine motor skills. A lot of the suggestions are included in this handbook. The OT’s also work with students and teachers to find ways to make the tasks easier for the student. For example, the OT may recommend a pencil grip, different type of paper, or use of a raised writing surface.
Requesting OT Services

In the state of Iowa, school-based OT services are provided through special education services. Therefore, in order to qualify for OT services in the school setting, a student must receive a full and individualized evaluation and qualify for special education services.

This process begins with the parents and/or teachers identifying a concern with a child’s fine motor skills. Once a concern has been identified, a meeting will be held with the parents, teacher, and Heartland Area Education Agency staff to determine if an evaluation needs to be completed.

If an evaluation is completed, and the child is eligible for special education and occupational therapy services, then the OT services would be provided in the school setting. If an evaluation is not completed or if the child does not qualify for special education services, the OT will offer suggestions of things the parents and teacher can try in the classroom and at home.
CONCLUSION

Thank you for taking the time to read through the Occupational Therapy Handbook for Parents. It is important that you are willing to learn more about ways to help your child develop fine motor and handwriting skills.

What’s next?

Continue to provide your child with frequent and multiple fine motor experiences

Encourage your school age child to continue to work on letter formation and handwriting skills in a fun atmosphere

If you have concerns regarding your child’s fine motor skills and handwriting, contact your child’s teacher. Together you can determine if an OT referral is an appropriate step.

If you have any questions or concerns regarding the Occupational Therapy Handbook for Parents, please feel free to contact Heartland Area Education Agency at (515) 270-9030 or www.aea11.k12.ia.us
REFERENCES


CHAPTER V
SUMMARY

Summary of Findings

After reviewing the current research regarding fine motor and handwriting development, the OT student examined the current referral process for occupational therapy services within Heartland AEA Region 4. The OT student discovered that there was not a consistent means of communication with parents regarding fine motor development. Information was presented upon parent request after a referral had been received. It became clear that a more proactive approach to fine motor development would be beneficial to the students, parents, teachers, and occupational therapy personnel.

Conclusions

The Occupational Therapy Handbook for Parents was designed to fill the need of consistent parent education and communication regarding the importance of fine motor skill development in preschool and early elementary-aged children. The goal was to provide parents with a resource that included activities that promote their children’s fine motor and handwriting development. The intention was also to provide parents with additional resources and contact information if they have additional questions or concerns about their child’s fine motor development. It was also intended that preschool and early
elementary teachers would have access to the OTHP to utilize as a resource for their own education as well as to provide ongoing parent education and support.

OT Implications

The Occupational Therapy Handbook for Parents will be a useful resource for the occupational therapists serving the Heartland AEA school districts because it provides parent education regarding a variety of topics and includes suggestions for home activities. This will be an efficient means of providing information regarding fine motor skills to parents. Prior to the development of the OTHP, the OT would have to create an appropriate handout with definitions, suggestions, and activities each time a parent or teacher would request more information. The OTHP is a researched-based product that provides information appropriate for a diverse parent population.

Proposed Product Implementation

The initial implementation of the OTHP includes an OT directed inservice with the preschool and elementary teaching staff at Dallas Center Grimes Community School District to provide copies of the handbook and a synopsis of its purpose. Then the handbook would be distributed to parents of preschool-aged children throughout the communities at the annual preschool parent meeting. This would also include a brief presentation from the OT regarding the purpose of the handbook and how to effectively use it. The OTHP would continue to be distributed on a yearly basis at the preschool parent meetings each fall. It is anticipated that the first year of distribution, the OT would attend the Kindergarten parent meetings as well to provide these parents with the background information and copies of the OTHP. After the first year, however, most parents would receive their handbook when their child was in preschool, therefore the OT
would not need to attend the Kindergarten parent meetings. Additional copies of the handbook would be available upon request from the elementary secretaries, and copies would be distributed to new families moving into the district with early elementary aged children.

Limitations

Potential barriers include ensuring school personnel are “on-board” with the implementation of the handbook. It will also be vital to encourage parent participation as well. This will require working with parents to find ways to help them incorporate activities into their daily routine to increase follow-through.

Recommendations

1. Program assessment of the Occupational Therapy Handbook for Parents through parent and teacher surveys to assess the effectiveness of the information provided in the handbook. Monitoring of OT referrals for fine motor delays will also be reviewed to determine if there is a change in the number of children with identified fine motor concerns.

2. Modifications of the activities suggested and resources provided in the handbook as indicated to ensure that accurate and reliable resources are provided.

In conclusion, providing children with multiple practice opportunities to utilize fine motor skills with a variety of activities can increase a child’s confidence with fine motor and eventual writing skills. Providing parents with the knowledge and resources to promote this development will create a more enjoyable learning environment in the home for both the parent and child. The Occupational Therapy Handbook for Parents was designed to help foster this positive environment through increased awareness and
education of the value of strong fine motor development. Through its implementation, the hope is that OT’s can work with parents and teachers to foster the development of confident young writers.
REFERENCES


