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Fine Motor Matters - A Plan to Improve Fine Motor Skills at the Early Childhood Level

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Fine Motor Matters – A Plan to Improve Fine Motor Skills at the Early Childhood Level

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Northwestern College

A School Improvement Plan Project Presented

in Partial Fulfillment of the Requirements

For the Degree of Master of Education

Abstract

Fine motor skills at the early childhood level have been well-researched. The early childhood years have proven to be vital years of growth and development in a child's life. Studies have also found that fine motor skills have a direct correlation to other areas of development, such as literacy, math, gross motor, etc. Research conducted at Rock Valley Community School District suggests that fine motor skills are an area that needs improvement. This school improvement plan describes in detail the process needed to implement a fine motor program for students in grades Preschool through Kindergarten. With successful implementation, the fine motor skills of young children within the district will significantly improve.

Keywords: fine motor skills, early childhood, development

Fine Motor Matters	3
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Table of Contents

Abstract	2
Fine Motor Skills at the Early Childhood Level	4
Review of the Literature	6
School Profile & Baseline	16
Needs Assessment	21
School Data & Analysis	23
Action Plan	27
Implementation of the Plan	31
References	34

Fine Motor Skills at the Early Childhood Level

The early childhood years have been proven to be essential for the growth and development of children. According to a study conducted by Derman, Zeteroglu, & Birgul (2020) about the effects of play-based math activities in children ages 48 to 60 months, the quickest and most vital time of development occurs between ages zero and six years. The early years in a child's life are crucial for their growth and development because they will guide and determine their future (Derman, Zeteroglu, & Birgul, 2020). Researchers Lui and Hamilton (2018), who studied the effects of gross and fine motor skills on Hispanic Pre-K children from low socioeconomic status (SES) backgrounds, describe fine and gross motor inclusion, instruction, and skills within early childhood classrooms as a critical but neglected area. The problem is that young children do not have the necessary fine motor skills to complete daily tasks, progress academically, and meet developmental milestones. Early childhood educators, parents, and children have been impacted by the lack of focus on this area of development. This school improvement project will provide research and information regarding the deficiency of fine motor skills in young children and the need for a fine motor program in early childhood classrooms.

The purpose of this school improvement plan is to implement meaningful and planned fine motor activities within early childhood classrooms. The goal of this research is to answer the question "Are fine motor skills essential for the growth and development of young children?" The plan will ensure that students are receiving the essential support and time in this developmental area in order to make the necessary progress for their learning and development. The plan will also increase and bring awareness of the need for students to develop fine motor skills essential for growth and development.

The research and data collected for this literature review and school improvement plan were found using the databases available from the DeWitt Library. The articles used for the literature review were published between the years 2012 and 2022. The research and articles focus on fine motor skills, implementation, curriculum, early childhood development, and integration.

From the information gathered, fine motor skills are essential for a child's growth and development. Additionally, children need to be provided with developmentally appropriate activities to advance their fine motor skills. Teachers have not been given the appropriate tools needed to support early childhood students in fine motor skills, a critical area of development. Reading, math, and other developmental areas have been focused on, while fine motor skills have been lacking attention. Early childhood educators need support from the administration and a curriculum to implement and facilitate growth in this area.

The literature review describes and explains the importance of early childhood development and the involvement of fine motor skills within a child's educational learning environment. The research that was found can be broken down into the areas of fine motor skills development, fine motor interventions, fine motor skills and special education, and fine motor skills related to writing skills. The literature review will then be used to create a school improvement plan to implement a fine motor program for grades Preschool, Transitional Kindergarten, and Kindergarten at Rock Valley Community School District.

Review of the Literature

Fine Motor Skills Development

Fine motor skills at the early childhood level have been well-researched. The research that has been done has provided educators and professionals with meaningful and impactful information that can guide and assist the development of young children, their education, and their future success.

One area that has been researched is the effect that age has on the development of fine motor skills. In a research study conducted by Memisevic & Hadzic (2013), 276 preschool students ages three to six attending Kindergarten at Canton Sarajevo were assessed on their fine motor skills and visual-motor integration using the Beery Visual Motor Integration Test and Lafayette Pegboard Test. The assessments focused on studying the relationship between age, fine motor coordination, and visual-motor integration in preschool children. The findings from this study revealed children's fine motor skills develop significantly at the preschool level (Memisevic & Hadzic, 2013). These results suggest that the early childhood years are critical and essential for the development of fine motor skills.

Another study was completed by researchers Jasmin et al. (2018), who reviewed and examined the implementation of occupational therapy in preschools. Jasmin et al. (2018) extensively explored occupational therapy practices in preschools within the United States using a scoping review strategy. Results from this study show that meaningful occupational therapy improved developmental and functional skills at the preschool level. (Jasmin et al., 2018). This information confirms that young children at the preschool level can strengthen and improve their fine motor skills when provided with age-appropriate activities.

An additional angle that has been researched is the connection between fine motor skills and their correlation to academic areas. Studies conducted by Kim et al. (2018) and Fischer et al. (2018) researched the relationship between fine motor skills and their link to mathematical skills. Fischer et al. (2018) studied and reviewed the effects fine motor skills had on 198 German preschool children's ability to understand mathematical concepts. Similarly, Kim et al. (2018) used an analytic approach to study 135 Kindergarten and 119 1st grade students and their performance on four different measures, including mathematical and fine motor, across three time points. Results from these studies indicated a child's fine motor skills and mathematical skills had a direct correlation. These findings suggest that a child's fine motor skills can affect their academic achievement, specifically in mathematics.

Suggate, Pufke, & Stoeger (2018) conducted a research study about fine motor skill development and literacy skill development among children. The study used various assessments to review 144 German children, age six, and their fine motor skills, graphomotor skills, and their link to early literacy skills. Suggate, Pufke, & Stoeger (2018) did not find any consistent correlation between a child's fine motor skills and their literacy development. Findings from this study indicated that fine motor skills did not play a significant role in early reading development. However, graphomotor skills did relate to early reading development. Fine motor skills play a role in graphomotor skills, thus, ultimately connecting fine motor skills to a child's literacy development.

In a similar study, a 12-week experiment conducted in the Western Cape Province of South Africa, researchers Botha & Africa (2020) studied the relationship between motor skills and letter knowledge. Researchers Botha & Africa (2020) implemented a perceptual-motor intervention on 100 1st grade students and used the Bruininks-Oserestky Test of Motor

Proficiency as well as the ESSI reading and spelling tests to measure literacy proficiency. Results from the assessments following the intervention found that a perceptual-motor intervention was successful in significantly improving both fine and gross motor proficiency skills, as well as reading and spelling. These findings show a contrast from the previous research by Suggate, Pufke, & Stoeger (2018) that suggested there was no relationship between fine motor skills and literacy skills.

The research studies conducted by Botha & Africa (2020), Fischer et al. (2018), Jasmin et al. (2018), Kim et al. (2018), Memisevic & Hadzic (2013), and Suggate, Pufke, & Stoeger (2018) provide meaningful background information about how critical the early childhood years are for a child's development. The research has also suggested that fine motor skills correlate with academic areas. Given appropriate and meaningful activities, students can make gains in their fine motor development.

Fine Motor Interventions

There have also been various studies done researching the effects and impacts of fine motor interventions on a child's development. The data that has been collected provides educators with information that supports the value and importance of meaningful, planned, and age-appropriate fine motor activities integrated within the classroom or other educational settings.

In a recent study conducted in 2020 by Derman, Zeteroglu, and Arzu, researchers studied the effect of play-based math activities on different developmental areas (personal-social, fine motor, language, and gross motor) of children ages 48 to 60 months of age. 45 children were studied throughout the experiment. 22 children were in the experimental group, each receiving

14 play-based math activities for one hour two days a week for eight weeks, and there were 23 children in the control group. The results revealed that play-based math activities had a positive effect on the personal-social, fine motor, language, and gross motor development of children (Derman, Zeteroglu, & Arzu, 2020).

Hamilton and Liu (2018) discovered similar results in a study researching the effects of an intervention on the gross and fine motor skills of Hispanic Pre-K children from low socioeconomic status backgrounds. Over the course of 16 weeks, 149 Pre-K Hispanic students were assessed using the Peabody Developmental Motor Scales-2 assessment. The researchers studied the impact that 800 minutes of skill-based instruction, targeted on gross and fine motor skills, had on the students' development. The findings also significantly supported progress in both gross and fine motor areas, suggesting that children benefited from a planned motor intervention program (Hamilton & Liu, 2018).

Researchers McGlashan et.al (2017) took a different approach in their research while they studied fine motor skills following a computerized typing intervention. In this four-week intervention program, 78 typically developing children between the ages of eight and ten received an online typing intervention. Results from the Movement Assessment Battery for Children and Tapping Tasks suggested that children who played the at-home tapping task games significantly improved their manual dexterity scores in comparison to the control group (McGlashan et. al, 2017). These results further solidify the impact that fine motor interventions and activities can have on a child's fine motor skill development.

In another unique study completed by Wei (2016), qualitative research was conducted over three months, examining the effect that planned folk games have on a child's fine motor skills. Students in a public urban kindergarten in China, ages four to five years old, were taught a

fine motor activity three times a week for 40 to 50 minutes. Using observation, Wei concluded that, overall, there was an improvement in fine motor skills in those who had participated in the folk game interventions. The children showed improvement in the areas of pinching, touching, drawing, and cutting (Wei, 2016).

Additional research has been discovered by Ohl et. al (2013), who studied the effects of a ten-week tier-one Response to Intervention program developed with classroom teachers to improve fine motor and visual-motor skills in general education Kindergarten students. In this study, 113 students from six elementary schools were studied using quantitative research over ten weeks. Using the Bruinicks-Oserestky Test of Motor Proficiency 2nd Edition, Beery-Buktenica Developmental Test of Visual Integration 5th Edition, and the Developmental Scale of Pencil and Crayon Grips, Ohl et. al (2013) also found students involved in the intervention group demonstrated a significant increase in fine motor and visual-motor skills.

Given the information and data provided above, one can conclude that fine motor interventions have been proven to show progress, further development, and increase fine motor skills. The research that Derman, Zeteroglu, and Arzu (2020), Hamilton & Liu (2018), McGlashan et.al (2017), Wei (2016), and Ohl et. al (2013) have all shown consistent results that validate the importance, value, and merit that planned and meaningful fine motor activities can have on a child's skill development.

Fine Motor Skills and Special Education

Another avenue that researchers have investigated involves the relationship between fine motor skills and children with special needs. The information from the following studies provides educational professionals with insight into how, and to what extent, fine motor skills

may be linked to developmental delays, disabilities, and more. The findings can provide educators with useful information to assess, detect, and determine if a child may have special needs, and how to best support them in their learning and development.

In a study done by Li et. al (2017), researchers studied the impact that various parenting styles had on small-for-gestational-age children in their development. Li et. al (2017) examined 800 children who were born small for gestational age and 3,000 children who were born appropriate for gestational age. Results from the study showed that early high-quality parenting may diminish some difficulty in long-term reading, math, and fine motor skills related to small-for-gestational-age birth, whereas low-quality parenting can increase the difficulties. These results further confirm that children with developmental delays, like being born small for gestational age, can also benefit and make progress with high-quality activity-based interventions (Li et. al, 2017).

LeBarton & Iverson (2013) took a different approach when they studied the infant siblings of children with autism and how their fine motor and expressive language skills were affected. After studying 34 infants with an older sibling with an autism diagnosis and 25 infants with no family history of autism, using parent reports and standardized observation, researchers LeBarton & Iverson (2013) discovered fine motor and expressive language skills are related to development in heightened-risk infants. These findings support the importance of fine motor skills. The results also indicate increased chances that a heightened-risk child may have language impairments and expressive language difficulties. This verifies a correlation between an autism diagnosis in an older child and the development of their younger siblings.

Researchers DiDonato Brumbach & Goffman (2014) also researched and examined language processing, language impairments, and their relation to fine and gross motor skills.

DiDonato Brumbach & Goffman (2014) reviewed 11 children with specific language impairments and 12 age-matched peers who were four to six years old. They studied how language production affected a child's gross and fine motor skills. Using perceptual and kinematic analysis, 30-minute experimental sessions, and standardized testing, researchers DiDonato Brumbach, & Goffman (2014) discovered that children with a specific language impairment had significantly lower scores on motor scales than their non-disabled peers. These results are consistent with previous findings that suggest developmental delays and special needs, such as a specific language impairment, negatively impact the fine and gross motor development of young children.

Additional research was done comparing the motor skill performance of preschool children from low socioeconomic backgrounds and their age-matched typically developing peers. Lui, Hoffmann & Hamilton (2017) used quantitative research to study 68 preschool children, ages three to five. 34 of the children came from low socioeconomic backgrounds and 34 children were considered to have typical development and backgrounds. Using the Peabody Developmental Motor Scales-2, Lui, Hoffman & Hamilton (2017) concluded that children with low socioeconomic backgrounds showed significant motor delays compared to their same-aged typically developing preschool children, not from a low socioeconomic background. These results confirm a correlation between motor delays and children with unique and special needs.

In a longitudinal study conducted in Switzerland, 74 children ranging from 63 to 86 months old were involved in a study that researched their developmental outcomes. Researchers Törmänen Minna & Roebbers (2018) investigated the differences in cognitive and socioeconomic development and academic achievement between children educated in special education classes and those educated in general education classes. Over the course of three years, Törmänen Minna

& Roebbers (2018) concluded that the groups of children showed significant differences while in Kindergarten but only differed in cognitive abilities at the second measurement point three years later. This information also confirms and validates the importance of early identification, intervention services, and the powerful impact they can have on the development of a child.

The research conducted by Li et. al (2017), LeBarton & Iverson (2013), DiDonato Brumbach & Goffman (2014), Lui, Hoffmann & Hamilton (2017), and Törmänen Minna & Roebbers (2018) all provide strong evidence to support a correlation between children with varying special needs and a delay in their development, specifically fine motor skills. These results reinforce the need for early intervention and the powerful impact it can have on a child's fine motor skill development.

Fine Motor Skills Related to Writing Skills

Another area that has been researched concerning fine motor skills is writing skills. A child's ability to write directly correlates to their ability to utilize the small muscles in their hands, wrists, and arms. The research gathered from these studies helps researchers and educators better understand how a child's fine motor skills, or lack thereof, affect their writing skills.

A study conducted in 2013 by Smith et. al (2013) assessed the effects of lined paper, prompting, tracing, rewards, and fading on the handwriting performance of two preschool special education students. The study took place over ten weeks in a self-contained special education public preschool classroom located in the Pacific Northwest. Smith et. al (2013) discovered that providing traceable prompts and slowly fading those prompts based on student performance was successful and productive when teaching preschool children with developmental delays how to

write their names. This study further supports the fact that fine motor and writing skills can be improved when given appropriate interventions.

Another recent study about writing skills was completed by Patiño John Fredy et. al (2020), who gathered and collected previous research and articles about motor development, early childhood development, and Information and Communication Technology (ICT) skills. After reviewing forty years of published studies on the topic using qualitative categorization and co-occurrence analysis, Patiño John Fredy et. al (2020) also found that the integration of fine and gross motor skills is meaningful and impactful with the use of Information and Communication Technologies. This aligns with the research done by Smith et. al (2013) confirming the powerful impact that fine and gross motor interventions can have on a child's writing abilities.

Researcher Hall (2016) approached the topic of writing from a different angle, as Hall (2016) studied the best ways to keep preschool students engaged during an interactive writing lesson. Using standardized preschool testing and observation in a preschool classroom, Hall (2016) found that the process of interactive writing is a developmentally appropriate activity that can be used to enhance a child's literacy development in the preschool setting. Although this study doesn't discuss the value of fine motor skills, the preschool GOLD standards break fine motor skills down into two parts; standard 7a. uses fingers and hands, and standard 7b. uses writing and drawing tools (*Objectives for Development & Learning*, 2010). Therefore, one can conclude that writing is an essential and meaningful part of learning at the preschool level, and fine motor skills are necessary for young children to write.

Another recent study conducted in 2019 studied the effects of a physical education-based intervention on 1st grade children's fine motor skills. Akin (2019) assessed 104 1st grade children in the Kutahya province for ten weeks. Akin (2019) utilized qualitative research to study how an

intervention of adapted ball control drills affected the children's fine motor and writing skills. The experimental group received an intervention three times a week for 40 minutes each session. Akin (2019) used the Buininks-Oseretsky test of Motor Proficiency second edition to discover that physical education-based intervention programs for small muscle groups positively affect a child's fine motor skill development and thus their interest in writing and schooling. Akin (2019) found a direct correlation between growth in fine motor skills due to the intervention and a positive attitude towards writing in the classroom. This study further supports the strong connection between fine motor skills and writing skills.

In conclusion, Smith et. al (2013), Patiño John Fredy et. al (2020), Hall (2016), and Akin (2019) all took a different approach to researching and studying writing and fine motor skills. However, all the findings have validated the importance of fine motor skills in young children for there to be success in writing skills. Consequently, a child's fine motor skills should be given appropriate and meaningful time, energy, planning, and implementation to help a child reach their fullest potential.

School Profile & Baseline

Rock Valley Community School District is in Rock Valley, IA, which is home to nearly 4,000 residents. It is a small, tight-knit community that is growing and thriving. There is a small-town atmosphere with plenty to do and see. Rock Valley's city motto is "A place of opportunities." The community contains various businesses, manufacturing plants, and industrial factories that create many jobs for community members. Additionally, there are numerous churches of various denominations. Rock Valley has several parks, walking and biking trails, a campground, golf course, library, pool, and many more recreational activities and attractions. 87.5% of the population in Rock Valley is white, 9.2% is Hispanic, and 3% are various other ethnic groups (Data USA: Rock Valley, IA, 2018).

Within the school district, there are 966 students in grades Preschool through twelfth. The district has two buildings: an early childhood building that houses Preschool and Transitional Kindergarten (TK) students, and an elementary, middle, and high school in a second building. The district's mission states, "The Rock Valley Community School District is committed to providing all students with educational opportunities to achieve their optimum potential in a global society." The school motto is, "Educating Today's Student for Tomorrow" (Rock Valley Community School District). Currently, there is a special bond initiative and proposal for a \$29 million renovation and building plan that would accommodate the growing school population and the need for additional space and upgrades.

According to the Iowa School Performance Profile, Rock Valley Community School District has 58.7% white students, 39.6% Hispanic, and less than one percent representing various other ethnicities. 56% of the population is male and 44% of the population is female. Students with disabilities on an Individualized Education Plan (IEP) make up 10.6% of the

student body. Additionally, 26.6% of the population at Rock Valley Elementary school are English Language Learners (ELLs). 45.7% of the elementary students are classified as having low socioeconomic status. Overall, there is a 98.31% graduation rate in four years (Iowa School Performance Profiles).

The overall performance by Rock Valley Elementary School is noted as commendable. Rock Valley Elementary School received 59.73 out of 100, with a state average of 54.94 on the state school profile. The comprehensive status is met, the targeted status is met, and there is not Every Student Succeeds Act (ESSA) support required (Iowa School Performance Profiles).

In the most recent Iowa Statewide Assessment of Student Progress (ISASP) assessments, 38% of ELL students were proficient in math, compared to the 45% of non-ELL students who were proficient. For English Language Arts (ELA), 15% of ELL students were proficient, and 52% of non-ELL students were proficient. 29% of students on IEPs were proficient in math, while 45% of students not on an IEP were proficient. For ELA, 0% of students on an IEP were proficient, and 50% of students not on an IEP were proficient. 49% of males were proficient, while 38% of females were proficient in math. In ELA testing, 49% of males were proficient, while 41% of females were proficient. In math, 40% of whites were proficient, 44% of Hispanics were proficient, and 100% of the Asian population was proficient. For ELA, 55% of white students were proficient, 30% of Hispanic students were proficient, and 100% of the Asian population was proficient. For math, 44% of students receiving free and reduced lunches were proficient, and 100% of students not receiving free and reduced lunches were proficient. In ELA, 44% of students receiving free and reduced lunches were proficient, while 100% of students not receiving free and reduced lunches were proficient (Iowa School Performance Profiles).

Students within Rock Valley Community School District follow the Iowa Common Core Standard for each grade level, except for Preschool. Preschool students follow the GOLD teaching standards. The elementary school, grades Kindergarten through fifth, follow the GoMath curriculum. There is not a specific English Language Arts curriculum that is used within the school district. Currently, the elementary school is in the process of researching, selecting, and adopting a new ELA curriculum for the upcoming school year. Although there is not a curriculum director, a curriculum committee has been formed to select an elementary ELA curriculum.

The district has three instructional coaches who work alongside and coach educators to reach their highest potential as teachers. The coaches and teachers work together to best meet the learning needs of students within the district. Instructional coaches are available for teachers to book throughout the day for co-teaching opportunities, one-on-one conferencing, and more. Teachers are required to meet with an instructional coach at least three times a year, but they are encouraged to meet more frequently.

Assessment is a vital part of the education system at Rock Valley Community School District. Students in grades Transitional Kindergarten through fifth are assessed three times a year according to the Functional Analysis Screening Tool (FAST) assessment. If students fall below the statewide benchmark, they are progress-monitored weekly. Additionally, the ISASP assessments are used to assess students in grades three through eleven. Preschool students are assessed using the GOLD assessment system. Fine motor skills are assessed in grades Preschool and Transitional Kindergarten using the GOLD standards and a scoring report card system. The results from the various assessments are then reviewed by the administration, instructional

coaches, and teachers. From there, changes and modifications are made to instructional practices to best meet the needs of students.

Each year, the school district requires that educators attend planned professional development days throughout the school year. These opportunities include full and half-day sessions. The first Wednesday of each month is an early-release day for students, providing teachers with the opportunity to meet, plan, collaborate, and develop as professional educators. Teachers are also required to complete a Professional Learning Plan each year that addresses a professional learning goal they have for the school year. The Professional Learning Plan is reviewed and assessed by instructional coaches and administration three times a year.

At Rock Valley Community School District, parents are invited to be partners in their child's education process. Parents, families, and guardians are welcome to attend parent-teacher conferences twice a year. Additionally, the elementary school uses the site "Seesaw" for grades Preschool through second and "Remind" and Google Classroom for grades third through fifth to communicate with families. Early childhood and elementary teachers also send home weekly newsletters informing parents of school and classroom news, learning objectives, reminders, etc. Throughout the school year, families are also invited to various school activities like open houses, family fun nights, musical programs, sporting events, art shows, book fairs, etc. To support the high population of non-English speakers, the school has several translators readily available for parents and families to communicate and make the connection between home and school.

The Rock Valley Community School District is a growing and thriving community that continues to challenge and push staff and students to reach their highest potential. However, like

all districts, some areas could use improvement. One specific area that could use some attention and refining is the area of fine motor skills at the early childhood level.

Needs Assessment

Based on the information shared previously, Rock Valley Community School District's curriculum and instruction could use some improvement. Within the elementary school, there is a lack of curriculum in several areas. Additionally, there is no consistency or accountability regarding what is being used and taught during instructional time within grade levels and classrooms.

Two areas that do not have a uniform curriculum within the elementary school are, English Language Arts and fine motor skills. According to the Common Core Standards, "The skills and knowledge captured in the ELA/literacy standards are designed to prepare students for life outside of the classroom" (*English Language Arts Standards, 2022*). Therefore, ensuring that students are being instructed appropriately for each grade level to master the ELA/literacy standards is essential. A school-wide English Language Arts curriculum that is aligned with the standards would ensure that this would happen.

Fine motor is another area of development that is not uniformly being taught within Rock Valley Elementary School. According to the Iowa Early Learning Standards, "These skills provide the basis for handwriting and other small motor skills needed for success in daily life and school. Adults can support the development of small motor skills by providing a variety of age-appropriate materials and many opportunities for play and exploration" (*Iowa Early Learning Standards*). Although fine motor skills are part of the state and national learning standards, there is no consistent implementation or purposeful teaching of these skills within the classrooms at Rock Valley Elementary School. While looking at the assessments administered at Rock Valley Elementary School, the only grade that routinely assesses fine motor skills is preschool. Students in Preschool are assessed on their fine motor skills using the GOLD assessment.

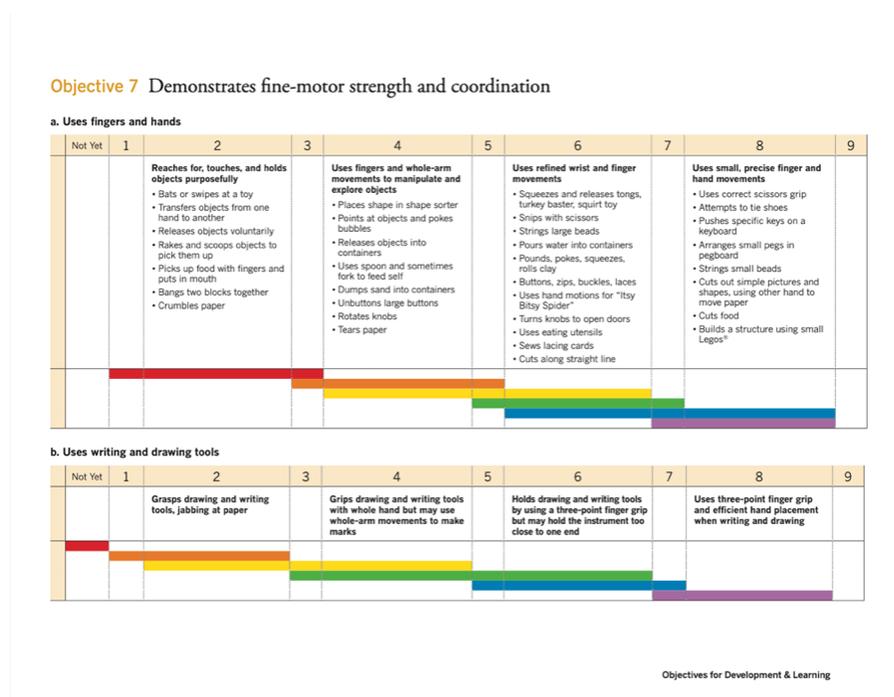
To guarantee that students are meeting the fine motor skill development standards, a fine motor program needs to be implemented. A fine motor program would include incorporating planned, meaningful, and age-appropriate activities that support and foster the growth and strengthening of students' fine motor skills. The following plan will address the data and action plan to successfully implement a fine motor program for grades Preschool through Kindergarten at Rock Valley Elementary School.

School Data & Analysis

Fine motor data was collected in March of 2022 for students in grades Preschool, Transitional Kindergarten, and Kindergarten at Rock Valley Elementary School. Each classroom teacher for grades Preschool through Kindergarten was sent a document to fill out assessing each student in their classroom on their fine motor skills. Preschool through Kindergarten teachers were also sent a document that included the GOLD objective 7a. “Uses fingers and hands” (Teaching Strategies, 2010), as well as objective 7b. “Uses writing and drawing tools” (Teaching Strategies, 2010). The teachers were instructed to rate each student in their classroom according to the GOLD scale provided. Additional information was provided to inform the teachers about the colored bands below each rating indicating the developmental age level for each stage a child may go through as they progress on the objective. For reference, the blue band is typical development for four-year-olds (Preschool) and the purple band is typical development for five-year-olds (Transitional Kindergarten and Kindergarten). The GOLD objectives, descriptions, and ratings are provided in the image below.

Figure 1

GOLD Teaching Standards 7a. & 7b.



The data that was collected is displayed in Figure 2 below. Each grade level and objective has been broken down into separate pie charts. The blue represents the students who met the standard, and the orange area represents the students who scored below the standard for their age/grade level. At the Preschool level, 7% of students fell below the benchmark for objective 7a. Similarly, 7% of students also did not meet standard 7b. For Transitional Kindergarten students, 4% of students did not meet the benchmark for objective 7a., while a large 35% of students did not meet the standard for objective 7b. Kindergarten had 15% of students who did not meet the benchmark for objective 7a. and 16% of students who did not meet the standard for objective 7b.

Figure 2

Preschool Fine Motor Data

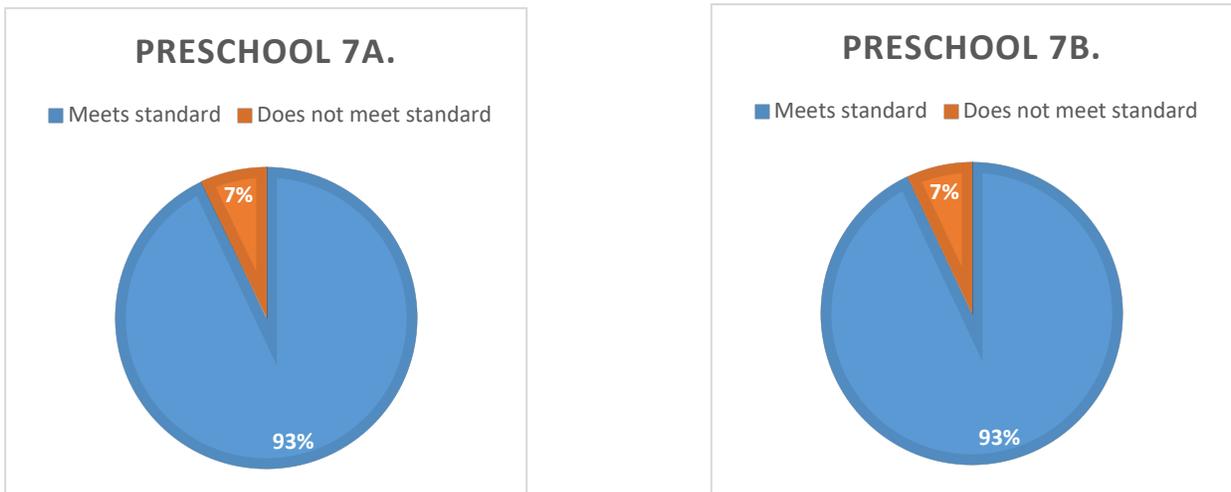


Figure 3

Transitional Kindergarten Fine Motor Data

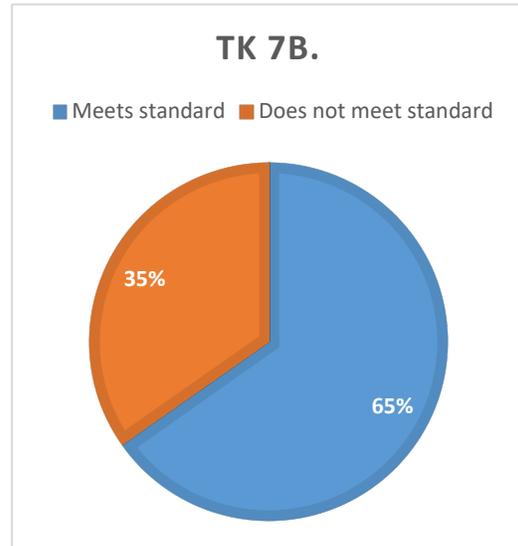
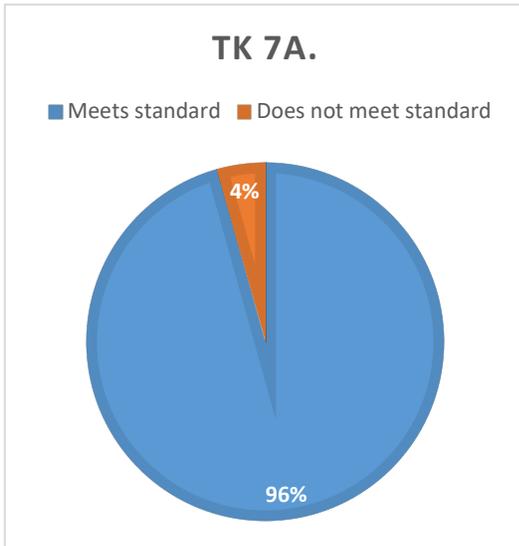
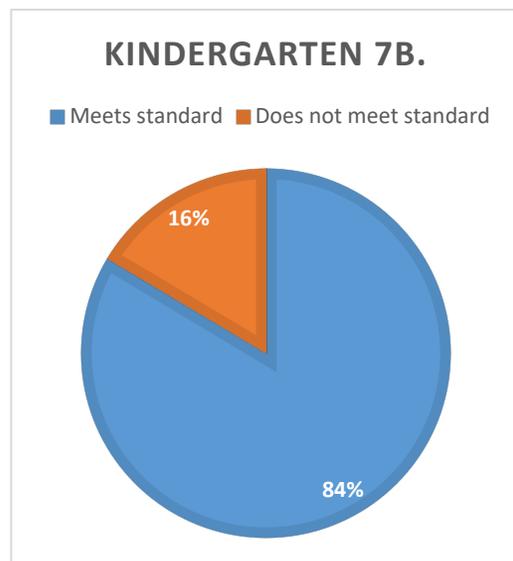
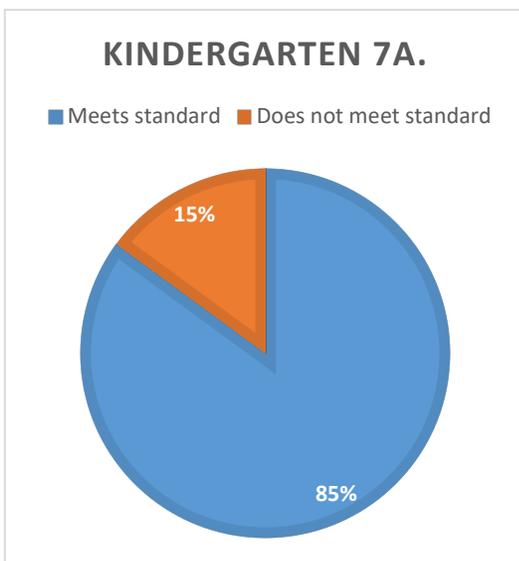


Figure 4

Kindergarten Fine Motor Data



This data reveals several things about the fine motor skills of students in grades Preschool through Kindergarten at Rock Valley Elementary School. First, the data indicates that there is approximately 7% of students in grades Preschool through Kindergarten that do not meet objective 7a. “Uses fingers and hands” (Teaching Strategies, 2010). Additionally, there is approximately 11% of Preschool through Kindergarten students who do not meet objective 7b. “Uses writing and drawing tools” (Teaching Strategies, 2010). These statistics show that fine motor skills are an area of weakness for early childhood students at Rock Valley Elementary. The greatest weakness appears to be objective 7b., as 23 Preschool through Kindergarten students do not meet the expected grade/age level standard. Although the scores are not outstanding, there were fewer students who did not meet the benchmark for 7a. Additional assessments could be performed to look at fine motor skills more in-depth. A fine motor assessment that breaks down skills even further is the PDMS-2 (Peabody Developmental Motor Scales 2nd Edition). Administering the PDMS-2 to each student would provide additional information about a child’s fine motor skills and possibly identify more specific areas of weakness and strength.

Action Plan

Based on the information and data collected from Preschool, Transitional Kindergarten, and Kindergarten teachers at Rock Valley Community School, action needs to be taken to improve fine motor skills at the early childhood level. The detailed steps to implement a fine motor program for grades Preschool through Kindergarten are outlined below. If implemented correctly and consistently, the fine motor skills of students within the Rock Valley Community School District should significantly improve.

Before the action plan, it is important to identify research-based strategies that lay the foundation for the plan. These strategies will be applied and embedded throughout the plan. To begin, one of the most valuable strategies applied to the action plan is that the implementation of the fine motor program begins at the Preschool level. Researchers Memisevic & Hadzic (2013) found that the early childhood years of a child's life are critical in the development of their fine motor skills and future academic success. Jasmin et al. (2018) also researched young children's development and discovered that young preschool children are capable of growth in the area of fine motor skills when given age-appropriate activities. This research was influential when determining at what age to begin implementing the fine motor program. Another research-based strategy that has been incorporated into the plan to improve fine motor skills at Rock Valley Elementary is the value and importance of making fine motor activities fun, engaging, and age-appropriate. This strategy was evident throughout the work of many researchers, and it was influential when determining the program that will be implemented. This ensures that the program includes age-appropriate and appealing activities for young learners.

The first step in increasing fine motor skills at Rock Valley Elementary is educating the Preschool through Kindergarten teachers about child development, fine motor skills, and sharing

the data and information collected about the fine motor skills of students from Rock Valley Elementary. This step is essential in ensuring that the educators understand what fine motor skills are, how they impact a child's development, and the need for strengthening these skills at Rock Valley Community School District. This information could be presented to educators through a presentation during professional development, ensuring that there is also time allotted for discussion and questions.

Next, educators teaching grades Preschool through Kindergarten would need to be introduced to and educated on the fine motor program they are being asked to implement. This could also be done during a professional development time where administration and curriculum coordinators explain and model the process and implementation of the fine motor program. It would be essential that copies of the program have been made for each teacher and example activities with materials are available for educators to view and manipulate. Following the meeting, teachers would be provided work time to create and assemble the fine motor activities for their classrooms.

At the start of the school year, educators would be asked to perform a fine motor assessment on their students to gather data about their fine motor skill level. After the trainings and pre-assessment, educators would be expected to implement the fine motor program for grades Preschool, Transitional Kindergarten, and Kindergarten. The program that will be implemented is the "Morning Work Tubs" created by Marsha McGuire. These tubs contain fine motor activities that will be put together by teachers using the resources downloaded from the document. Each teacher can choose which activities they would like to use according to the individual and unique needs and skills of the students within their classroom. Activities within the program utilize tools such as tongs, play-doh, clothespins, etc. to focus on strengthening fine

motor muscles. During arrival time, students work together with a partner on the activity inside the tub. This could be anywhere from five to fifteen minutes. Each month, the activities and materials in the tubs are switched out to keep students engaged with new materials. Every month, students would also be assigned a new partner to work on their tub with. These activities would be expected to be implemented consistently every day throughout the school year.

Three meetings with educators, administrators, and educational coaches would be held throughout the school year. These meetings would be a time for teachers to collaborate, ask questions, share how things are going, etc. with the fine motor program that they are implementing. At the end of the school year, teachers would be asked to perform a fine motor post-assessment for the students in their classroom. Figure 5 below is an example timeline of what implementing the fine motor program may look like at Rock Valley Elementary School.

Figure 5

Sample Implementation Timeline

<u>Date</u>	
<u>August 10th</u>	Inservice about fine motor skills and data at Rock Valley Community School District
<u>August 13th</u>	Inservice about fine motor program and work time
<u>August 25th</u>	Fine motor assessment for Preschool through Kindergarten students
<u>September</u>	Begin fine motor program implementation
<u>October</u>	Fine motor program check-in

<u>January</u>	Fine motor program check-in
<u>March</u>	Fine motor program check-in
<u>May</u>	Fine motor assessment for Preschool through Kindergarten students

Implementation of the Plan

For the implementation of the action plan to be successful, it is important to identify resources that will be utilized throughout the implementation process. The most valuable resource that will be used is the fine motor program “Morning Work Tubs” by Marsha McGuire. This downloadable document will provide educators with the ideas, tools, and resources they will need to successfully implement fine motor activities into their daily classroom routine. The program provides teachers with an abundance of engaging and age-appropriate fine motor activities for each month. Early childhood educators are given the freedom to choose which activities they would like to implement each month according to student needs, age, abilities, preferences, etc.

Another resource that will be used is the Teaching Strategies GOLD assessment. More specifically, the fine motor standards 7a. “Uses fingers and hands” and 7b. “Uses writing and drawing tools,” will be used (Teaching Strategies, 2010). This assessment will be utilized to assess and monitor students’ fine motor skills throughout the school year. The assessments gathered from the GOLD data will provide information to determine if the plan to improve fine motor skills at the early childhood level was successful.

For this plan to be successful, it is also essential to delegate responsibilities. Administration and learning coaches must be given the responsibility of acquiring the resources, learning about the program themselves, and preparing learning opportunities to educate the early childhood teachers about the fine motor program. Administration and learning coaches are also given the responsibility of holding the educators accountable for implementing the fine motor program correctly and consistently. Additionally, they will need to be available to provide support and answer questions the teachers may have. After data collection points, administration

and learning coaches will also be responsible for compiling and dissecting the data. They will then be expected to present, explain, and deliver this information to staff members.

Early childhood teachers who teach grades Preschool, Transitional Kindergarten, and Kindergarten will be expected to implement the fine motor program with consistency and validity. Preschool through Kindergarten teachers will also be responsible for putting the fine motor tubs together each month, using the resources provided and explained by the school district. This will include printing, laminating, and gathering various learning materials such as tongs, play-doh, dice, etc. Additionally, early childhood educators will be expected to administer the GOLD assessment for objectives 7a. and 7b. a minimum of three times throughout the school year. In addition, educators will be expected to explain the fine motor tubs to their students and provide the necessary support for students during the fine motor work time.

Paraprofessionals working alongside early childhood teachers will also be given responsibilities in the implementation of this plan. They will be asked to provide support for students who may need additional help during this time. Paraprofessionals may also be responsible for helping teachers prepare the fine motor tubs each month by prepping resources and gathering materials.

To monitor the success or failure of this fine motor intervention, the GOLD assessment will be used. The data that is collected from the GOLD fine motor objectives 7a. and 7b. will provide valuable information about the fine motor skills of students in grades Preschool through Kindergarten at Rock Valley Elementary School. If the fine motor skills of students improve from the start of the school year to the end and if the average fine motor skill scores of students in Preschool through Kindergarten rise, we will know the plan was successful. However, if the fine motor skills remain the same or the scores decrease, we will know that the plan was not

successful. After data has been collected, it will also be beneficial to dissect the scores of each grade and each classroom and to look for any noticeable patterns that may appear.

Unfortunately, there are some barriers and challenges that could affect the success of this school improvement plan. One challenge that could arise is not having all the early childhood teachers implement the fine motor tubs properly or with consistency. If this were to occur, it would be difficult for students to make progress on their fine motor skills. The inconsistency of implementation between classrooms could also affect the GOLD assessment scores.

Another barrier that could affect students' fine motor progress is students not arriving on time for school. Because the fine motor tubs will be implemented during arrival time, it will be essential that students arrive on time to work on the fine motor activities. If a student consistently arrives late for school, they may miss the fine motor instructional time, affecting their fine motor skills and/or assessments.

A final conflict that could arise is extended student absences. If a student is absent from school for an extended period or has excessive absences from school over the school year, this could negatively impact their fine motor skills. It is critical that students are present at school, so they can receive fine motor instruction to make progress in this essential area of development.

In conclusion, the success of this school improvement plan is probable if the resources are utilized correctly, responsibilities are appropriately assigned, and data is properly collected and monitored. Potential conflicts and barriers have also been discussed, with hopes that they can be avoided. Fine motor skills at the early childhood level can be redefined and reformed with the meaningful and successful implementation of this plan.

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