Teachers' Perceptions and Students' Performances of Fundamental Motor Skills Using the "Ladders to Success"

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The Practical Assessment of Fifth Grade Students' Fundamental Motor Skills

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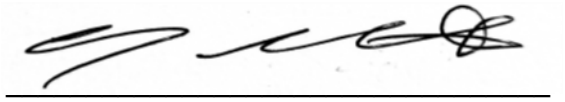

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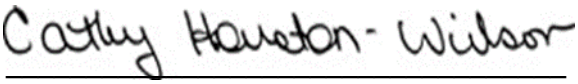

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Abstract

The development of fundamental motor skills is essential for youth's ability to participate efficiently in physical activity. Their levels of daily physical activity and motor skills, however, both in and out of the K-12 Physical Education setting have been slowly decreasing over the past decades (Friel et al., 2020). In Physical Education, teachers are tasked with the assessment of students' motor skills (as reflected by SHAPE's 2020 National Learning Standard as well as students' progress toward meeting program goals. The field of physical education, though, lacks practical assessment tools that teachers can use to easily and efficiently measure students' progress in these areas. Therefore, this exploratory, mixed methods study assessed select students' abilities to perform the fundamental skills of overhand throwing, jumping rope, striking with a paddle, and kicking while using the respective "Ladders to Success" (Graham et al., 2023). Quantitative data was collected from 22 fifth grade students; and their two physical education teachers were then interviewed to gain their qualitative perceptions about their students' motor abilities. Results show that students who participated in this study do not appear, overall, to have the necessary fundamental motor skills needed to be successful in a variety of physical activities commonly found in childhood. Boys were overall more successful than girls in completing a majority of the given tasks. Teachers believe that the increased use of technology, COVID-19, and a lack of family involvement, and play contribute to children lacking these necessary fundamental motor skills. They also believe that the "Ladders to Success" provide both benefits and challenges for use in a physical education setting. Recommendations for future research include the replication of this study in a variety of contexts across the United States as well as to determine if similar similarities and differences of results continue to be found.

Chapter One: Introduction

People around the world are always looking for ways to create a happy and healthy life for themselves. To this end, individuals are willing to spend hundreds and thousands of dollars to find the quickest ways to improve their overall health and physical fitness. Many of these "latest and greatest" methods are shortcuts and "magic pills" that people are willing to spend a large amount of money on, but they are not the most helpful for long-term results and benefits. Rather, regular participation in physical activity is one of the most viable ways by which an individual can look to improve their health (United States Department of Health and Human Services, 2018). Studies have shown that there are numerous positive benefits to individuals who lead a physically active life (Centers for Disease Control and Prevention, 2022; Jakicic, 2009; Ozemek et al., 2019). Participation in regular physical activity can improve an individual's brain health, assist in weight management, and reduce the risk of certain lifestyle diseases and many other serious illnesses (Centers for Disease Control and Prevention, 2022; Jakicic, 2009; Lee et al., 2023). Individuals who are physically active on a daily basis are, for example, less likely to having longer lasting negative effects of COVID-19 (i.e. "long covid") (Dwyer et al., 2020) and are more likely to see guarding effects against the coronavirus (Sallis et al., 2022). Physical activity can also improve an individual's mental health and emotional wellbeing which in turns improves overall mood, personal relationships, and lowers rates of mental health conditions, such as depression and anxiety (Biddle et al., 2019). It can also result in the strengthening of bones and muscles, thus allowing individuals to more easily and fully participate in the daily activities they wish to complete (Lesinski et al., 2020).

Conversely, a habitual lack of regular physical activity can result in an unhealthy lifestyle in which individuals may develop short-term health complications or over the long term, chronic

diseases such as cardiovascular diseases, some cancers, and Type-2 diabetes which they will have to manage for the rest of their lives (Neuhouser, 2019). In fact, as of 2018, roughly half of all adults in the United States that is, approximately 117 million people - have one or more of these and other preventable chronic and debilitating diseases that affects their overall health (Neuhouser, 2019). Although regular physical activity can decrease the probability of individuals being diagnosed with seven out of 10 of the most common chronic lifestyles diseases, 80% of American adults have yet to meet the national recommended guidelines for both aerobic (every day for at least 30 minutes) and muscle-strengthening (at least twice a week) activities (USDHHS, 2018). Unfortunately, many of these unhealthy habits of our nation's adults have trickled down into younger generations. As a result, many of these unhealthy habits have begun to negatively impact the health of American youth, as well.

Decreasing physical activity levels of American children and youth have resulted in a "physical activity crisis" in our nation. Children in the United States are currently beset by high rates of physical inactivity, high screen time, and shortened hours of regular sleep (Friel et al., 2020). As is the case with their adult counterparts, children in the United States are not meeting the federal government's recommended guidelines for physical activity. For example, less than 25% of American youth between the ages of six and 17 receive the recommended amount of 60 minutes of physical activity each day; only 26.1% of all high school students participated in the recommended 60 minutes of physical activity per day in 2017 (Centers for Disease Control and Prevention, 2022). Since the COVID-19 pandemic began youth's participation rates are even lower, with some results finding that children's moderate-to-vigorous physical activity (MVPA) levels have decreased by 17 minutes daily - totaling 119 minutes less physical activity per week (Neville et al., 2022).

Although school Physical Education (P.E.) classes are a potential setting in which students can be physically active and learn skills, the Centers for Disease Control and Prevention (CDC) (2022) share that only 57% of high school students attend physical education in an average week and only 30% attend physical education classes daily. Few elementary children in the U.S. receive daily physical education (Society of Health and Physical Educators of America, 2019). Thus, it can be surmised that students who are not attending or participating in daily physical education classes may be missing crucial learning experiences which can positively impact their health and their ability to effectively move. Along with that, these students are missing opportunities that could positively shape their knowledge and lifestyle habits relative to physical activity.

As a school course, physical education is the only subject area in a school's curriculum where the main focus centers around educating students on developing, in part, a variety of fundamental motor skills. It is one of the few places in many children's lives where they are able to learn about physical activity and physical movement. The aim of physical education is to provide students with tools for their future where they can develop and live healthy lives through physical activity (SHAPE America, 2019). Goals for physical education teachers should be to educate students about different ways they can stay active as well as teach students the motor skills and skill-based knowledge they will need in order to successfully participate in a wide variety of activities. Such activities include lifetime activities, muscle-strengthening activities, game-based activities, aerobic fitness, and many other types. Educating students with the focus of motor skills and skill-based knowledge will allow for students to blossom into becoming "physically literate" individuals, as evidenced by national standards for physical education (SHAPE America, 2019).

The Society of Health and Physical Educators, better known as SHAPE America, has developed five national learning standards as a framework for all physical education curriculums and programs (see Figure 1.2). SHAPE America identifies these standards as what students should know and be able to do as the result of a highly effective physical education program (SHAPE America, 2013). While physical education program plays a pivotal role in helping most students achieve these standards, other opportunities such as recreation programs, sports programs, and other community-based programs are additional examples of areas where children can learn about and enjoy physical activity (Graham et al., 2013; Ozemek et al., 2019).

Along with meeting critical healthful standards, physical education can also be considered one of the few areas in a child's K-12 educational journey where they are consistently learning and working within all three learning domains. Unlike other subjects, physical education places an emphasis on developing the psychomotor, cognitive, and affective aspects of each student through their educational experiences (Graham et al., 2013). While curriculum and lessons are designed to teach students in all three areas, the psychomotor domain is traditionally the most heavily focused on in the physical education setting. The psychomotor domain of learning includes two main components: physical fitness and motor skills.

Physical fitness is comprised of both skill-related competencies (e.g. balance, coordination, speed) and health-related competencies (e.g. muscular strength, flexibility, cardiovascular endurance) (Carl et al., 2020; Haywood, 2013; Graham et al., 2013). Motor skills are the basis for all human movement (Graham et al., 2013; Newell, 2020) (see Figure 1.1). They can be broken into the three broad areas of locomotor motor skills (i.e. skipping, running, jumping), nonmanipulative skills (i.e. bending, twisting, curling), and manipulative skills (i.e. kicking, striking, dribbling).

Figure 1.1

Breakdown of Motor Skills

Manipulative	**Locomotor**	**Nonmanipulative**
Throwing	Chasing	Curling
Catching	Fleeing	Stretching
Kicking	Dodging	Twisting
Punting	Traveling:	Bending
Dribbling	• *Walking*	Jumping & Landing
Volleying	• *Running*	Balancing
Striking with Rackets	• *Hopping*	Rolling
Striking with Long Handled Implements:	• *Skipping*	Transferring Weight
• *Bats*	• *Galloping*	
• *Golf Clubs*		
• *Hockey Sticks*		

There is a strong connection between youth's levels of physical activity and their level of competency in fundamental motor skills (FMS) (Bolger et al., 2021; Lubans et al., 2010). The ability of many children to perform motor skills has decreased over time, due mainly to a lack of physical activity and low fitness levels (Crane et al., 2017). There is also a significant correlation between a child's ability to perform fundamental movement skills and their body composition (O'Brien et al., 2022; Okely et al., 2004). Results indicate that a child's ability to successfully perform fundamental motor skills is positively related to a lower Body Mass Index (BMI) and inversely associated to their weight status (Bolger et al., 2021; Lubans et al., 2010).

Although students' physical fitness is commonly assessed by physical education teachers through the use of formal (normed and validated) assessments such as the Fitnessgram program, there are not as many easily accessible assessment tools which teachers can use to assess youths' fundamental motor skills and to determine whether or not students meet national and state standards in physical education (O'Brien et al., 2022). While there are a variety of tools available for the assessment of individual motor skills such as the Test of Gross Motor Development (TGMD-3) (Ulrich, 2019) and PE Metrics (SHAPE America, 2013), many physical education teachers may not have the necessary training and time throughout the school year to properly use these to assess each student (Carroll, 1993). Furthermore, teachers do not find these assessments easy to use with full classes of students due to time constraints, accessibility, and other factors, thus creating a significant gap in the instructional process for many teachers (Feldman, 2023; Mercier & Doolittle, 2013). Taken together, these suggest that many teachers many lack the specific knowledge as to how well and what extent their students meet both national and state standards as well as the accompanying grade level outcomes (Killian & Woods, 2021). Without this knowledge, it is likely that students will be unable to reach their potential for personal growth, physical activity, and development of fundamental motor skills.

Research Topic and Problem

It is critical for children to develop their motor skills to assist them with meeting health-enhancing levels of physical activity. Children with high levels of motor skills are more physically active than children who function at a lower level of motor skills (Brownson et al., 2005). In addition, the increasing rate of obesity among American youth parallels the finding that children and adults are not as physically active as they should be. From this, it can be concluded

that children's competencies in motor skills haves decreased as childhood obesity rates have increased over time (Brownson et al., 2005; Deal et al., 2020).

With the critical connection between the need for increased rates of physical activity on the part of youth, and teachers' need for accurate knowledge of the status of their students' level of motor skills, it becomes important that physical education teachers be provided with an easy-to-use and effective assessment tool that will assist each teacher to best serve their students. Therefore, this exploratory study will use the "Ladders to Success" skill progressions to determine how many fifth-grade students meet the fifth "rung" or level of attainment for four specific fundamental motor skills. These ladders or progressions reflect the content found in the National Standards for physical education (Graham et al., 2013). Along with learning about the physical ability of fifth-grade students, insight from teachers about their student's educational journey in the physical education setting has also been described through interviews. With this information, it has provided a clearer picture of the assessment process for children's motor skills and their progress towards achieving the national standards and benchmarks in elementary physical education.

Statement of Purpose

The overall purpose of this study was to assess select fifth-grade students' abilities to perform the fundamental motor skills of overhand throwing, jumping rope, striking with a paddle, and kicking using the "Ladders to Success" tool, and to determine teachers' perceptions regarding the use of the Ladders as a tool for programmatic assessment. The following three main questions guided this inquiry:

1. What percentage of fifth grade students are able to successfully perform the motor tasks specified in rung five for each of the "Ladders to Success" skills progressions for the

fundamental motor skills of throwing, catching, jumping rope, and striking with a paddle?

2. What difference, if any, exists between the number of male and female students who are able to successfully meet the tasks for rung five of the designated skills progressions?
3. What are teachers' perceptions surrounding the use of the ladders and of their students' performance relative to the fundamental movements of throwing, catching, jumping rope, and striking with a paddle?

Assumptions

1. Students will perform each skill assessment to the best of their abilities on the given day of the assessment.
2. Student participants' levels of knowledge and ability to perform each skill may differ, based on experiences they have encountered both in and/ or outside their physical education class.
3. Adult participants' (teachers) will share their true thoughts about their program, the curriculum they teach, and how they think their students will program during interviews.
4. The school involved in this study will not change their curriculum before the data collection process begins.

Limitations

1. The sample in this study is limited to selected participants who are located in the Northeast region of the United States; therefore, the population may not be representative of the larger U.S. population.

2. Convenience sampling will be used in this study due to the researcher's ability to access student participants. Due to this, the sample size may or may not be representative of the larger U.S. population.

Delimitations

1. This study will only look at four specific fundamental movement skill of fifth-grade students (throwing, catching, jumping with a rope, striking with a paddle).
2. Student participants will be limited to those who are enrolled in fifth grade at the time of the data collection.
3. This study will only have student participants who are fifth grade students enrolled in public, state funded institutions.
4. All of the teachers that participate in this study will be certified and trained in physical education by their state of employment.

Operational Definitions

1. Formal Assessment: Involves evaluating a learner's performance with a written or standardized instrument that may have predetermined criteria (Chepko et al., 2018).
2. Informal Assessment: Involves evaluating a learner's performance without a formal or written instrument (Chepko et al., 2018).
3. Learning Standards: Concise, written descriptions of what students are expected to know and be able to do at a specific stage of their education. Learning standards describe educational objectives—i.e., what students should have learned by the end of a course, grade level, or grade span—but they do not describe any particular teaching practice, curriculum, or assessment method (Great Schools Partnership, 2014).

4. Physical Activity: Any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work (World Health Organization, 2022).
5. Physical Literacy: The ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person (SHAPE America, 2017).

Research Hypotheses

Based upon personal experience as well as literature related to throwing (Hardy et al., 2013; Payne & Isaacs, 2020) and the historical assumption that jumping rope is a "girls' activity" (Hernandez et al., 2013), it is hypothesized that the following conclusions will be reached for the adult and student participants who participate in this study:

1. Less than 50% of all student participants tested on the skills test will be able to successfully meet rung five for any of the four skills tests for throwing, kicking, jumping rope, and striking.
2. Boys will be able to successfully complete the skills tests for throwing and kicking at a higher passing rate than for girls.
3. Girls will be able to successfully complete the skills test for jumping rope at a higher passing rate than for boys.

Author's Bias

The author of this research has worked with elementary level students through numerous experiences both in and out of the school setting, and thus has gained a perspective on the abilities of a typical fifth grade student. First, the researcher was able to interact with children in

a school physical education setting during four different semesters of classwork during undergraduate training. Second, the researcher has been a substitute teacher where he has been able to interact with students in the classroom setting as well as the physical education setting. Third, the researcher has worked at a summer day camp for numerous summers prior to this study. Lastly, the researcher has coached youth soccer, basketball, swimming, track and field, and lacrosse for a number of years. Throughout this time, the researcher has had the opportunity to watch and work with some very gifted athletes.

Through all of these experiences, the researcher believes that the overall level of motor skills of children has been decreasing over the years that the researcher has been involved in the field. Along with a decrease in motor skills, the researcher would agree that children are appearing to become more physically illiterate at later stages of childhood, ultimately lowering the level the motor skills for many individuals. The researcher believes that the COVID-19 pandemic challenged many physical education and other community and sports-based programs with providing learning opportunities for children that would allow them to develop their skills in relativity the same timeframe as children in previous years. With all of the experience that the researcher has had, the researcher believes that more than half of the students will not be able to perform the specific skills at rung five for the selected ladders in this study.

While the researcher does have professional connections with some of the staff and faculty at the school where the data will be collected, extreme care will be taken to remove any personal ties or affiliation from the school, staff, and students during the time of data collection in order to ensure the highest level of trustworthiness for the study. The researcher always seeks to keep an objective outlook while collecting data to again ensure trustworthiness and validity of data. The clear-cut data collection process (where a student either can or cannot perform the

skill) will help ensure these vital qualities. The researcher will not personally know any of the students in the school, since students the researcher would have interacted with during student teaching have all moved to the middle school level. Whether it is collecting data on students or teachers, all ethical procedures will be followed to guarantee the credibility and trustworthiness of this study for all locations used.

Although the researcher has not implemented an elementary level assessment plan within a K-12 setting, the researcher has had many experiences using assessments in the physical education setting. The researcher has used a wide variety of assessment tools which have ranged from subjective to objective to assess students. While the assessment tools used in a specific situation depends on the skills and knowledge being assessed, the researcher does favor a more objective approach for assessment.

The researcher is very open to all thoughts and opinions on the research topic. The researcher will work hard to ensure that any held personal beliefs and experiences will not affect the outcome of the study by remaining as unbiased as possible.

Significance

Regardless of an individual's age, physical activity provides many health-related benefits. At a young age, children begin to learn how to move efficiently through the space they are given. As toddlers and children continue to grow and mature, their ability to perform fundamental movement patterns and motor skills levels should also increase. Unfortunately, children today are spending less and less time in physical activity; less than 25.5% of American youth between the ages six and 17 that are receiving the recommended amount of 60 minutes of physical activity each day (CDC, 2022). In fact, one studies shows that in 2001, 24.2% of male students and 37.9% of female students were classified as inactive (Brownson et al., 2005).

As time has progressed to the present day, obesity is another leading factor that is affecting a child's physical activity level. Living a sedentary lifestyle or a lifestyle with limited physical activity can lead to weight gain and over time can turn into an obese body type. Childhood obesity is a very concerning problem in the United States. A studied by the CDC states that 19.7% of all adolescences in the United States are obese (CDC, 2020). The prevalence of obesity affects roughly 15 million children and adolescents. Over the past three decades, the rates of childhood obesity have doubled for children and tripled for adolescents (Sanyaolu et al., 2019). This statistic supports the fact that levels of fundamental movements patterns, motor skills, and physical activities levels in children has decreased (Crane et al., 2017). Ironically, however, it is known that physical activity is one of the best preventative methods for obesity (Jakicic, 2009). With that said, there needs to be a substantial emphasis on the importance of physical education programs in all K-12 school settings. These programs can assist in helping youth to meet not only daily activity requirements, but to improve their levels of motor skills, as well.

It is crucial that it be clearly translated through the literature that SHAPE America's primary focus is to expand the opportunities making it more possible for students to perform fundamental movement patterns and motor skills, thus allowing for them to be become physically literate individuals. Without the promotion of physically literate individuals, many concerning issues can arise. Looking at a short-term reflection of not promoting physical activity and positively encouraging physically literate individuals, children will not gain the proper fundamental movement patterns and motor skills they will need to be physically active. This lack of fundamental movement patterns and motor skills can lead to children not being able to perform physical activity at the proper levels which can discourage physical activity in children.

Diving even deeper, if a child does not gain the necessary fundamental movement patterns or motor skills this can lead to unhealthy living and often times being overweight or obese (Okely et al., 2004).

Although inconclusive, research suggests that the overall level of fundamental movement patterns and motor skills of adolescents has decreased over the past few decades (Barnett et al., 2016). As this statement is inconclusive, it does share a possible insight on the pros and cons of the overall fundamental movement patterns and motor skills. If this statement is found to be true, it may allow society to recognize that there is decrease in skill level. Again, if this is true, there may be millions of adults and children who are not reaching their full potential regarding their ability to perform fundamental movement patterns and motor skills. With that in mind, not having the proficient skills may ultimately lead to lower levels of physical literacy and lower levels of physical activity for millions of individuals. Other researchers have been conducted stating that the overall physical activity levels in youth have decreased over the years (Hallal et al., 2012; Hastie, 2017), and that the physical skill level in children has decreased over the past few decades (Barnett et al., 2016; Dwyer et al., 2020; Haywood, 2013).

Therefore, it becomes important for teachers to learn about their students' motor skills and to be able to describe how well their students are progressing toward meeting national guidelines surrounding physical activity and physical education. Along with this, it is very important that teachers are thoughtful on how they are teaching these skills to their students. This research can serve an important role in providing teachers around the nation the ways in which they can learn more about their student's fundamental movement patterns and motor skills and thus more easily impact these skills and ultimately, their students' levels of physical activity and health.

Summary

Motor skills are critical if youth are to become physically active and "physically literate." This research study seeks to describe elementary children's levels of motor skill attainment for basic movement skills as well as gather information on the utility of the instructional tool known ad the "Ladders to Success" (Graham et al., 2023) from the students' teachers. Results gained will provide educators, families, and administrators with knowledge they can use to enhance their physical education program and positively influence the motor skills learned by our nation's youth.

Chapter Two: Review of Literature

The overall purpose of this study was to assess select fifth-grade students' abilities to perform the fundamental motor skills of overhand throwing, jumping rope, striking with a paddle, and kicking using the "Ladders to Success" tool, and to determine teachers' perceptions regarding the use of the Ladders as a tool for programmatic assessment. The following three main questions guided this inquiry:

1. What percentage of fifth grade students are able to successfully perform the motor tasks specified in rung five for each of the "Ladders to Success" skills progressions for the fundamental motor skills of throwing, catching, jumping rope, and striking with a paddle?
2. What difference, if any, exists between the number of male and female students who are able to successfully meet the tasks for rung five of the designated skills progressions?
3. What are teachers' perceptions surrounding the use of the ladders and of their students' performance relative to the fundamental movements of throwing, catching, jumping rope, and striking with a paddle?

Review of Literature

Four main areas of literature relating to the assessment of fundamental movement patterns and motors skills in 5th grade students will be discussed in this review as it is relevant to the purpose of this study. These include: 1) motor skill assessments in physical education; 2) the use of state and national learning standards in physical education curriculum; 3) physical activity rates in school aged children: and 4) fundamental movement skills and patterns.

Motor Skill Assessments in Physical Education

As a child progresses through their K-12 educational program, they are consistently being assessed and measured to make sure that they are meeting the recommended learning outcomes for all content areas (Chepko et al., 2018). There are many different methods a teacher can use to assess a child depending on the content area. Just like any other core subject area, physical education teachers use assessments to measure the success of the students in class. Assessments in the physical education setting may differ from other areas, but assessing students is a necessary part of the curriculum. The assessment tools can act as a source of checks and balances for the teacher's teaching style, the development of lesson plans, the accurate use of National and State Learning Standards. While the overall focus of assessment is on measuring student learning, there have been slowly emerging foci that also are essential in the process (Chepko et al., 2018). For example, effective teachers utilize assessments to provide feedback to students, forge specific instructional decisions, and identify the strength and weakness of the teacher. According to Chepko et al., a primary purpose of assessment in physical education is also to document the students' attainment of National Standards and Grade-Level Outcomes in physical education (2018). Thus, as teachers have been called for more accountability in their teaching, the role of assessment has never been more important.

In a physical education curriculum, teachers can assess their students using both informal and formal assessments. The research supports ways to assess student's by using a formal assessment tool. A formal assessment tool in the physical education setting is one that has been developed and refined by using data driven experiences to create a set of predetermined criteria for a child to reach (Ulrich, 2019). Formal assessment tools in physical education include the TGMD-3, Fitnessgram, and many others.

Formal Assessment Tools in Physical Education

The Test of Gross Motor Development-3 (TGMD-3) is a great example of a formal assessment tool created for physical education teachers. The TGMD-3 is a norm-referenced test that has been developed to identify children with gross motor deficits (Ulrich, 2019). The TGMD-3 is comprised of two subtests. The first test looks to measures the gross motor skills of students in general space as they work with others and themselves. The second part of the test includes measuring the ball handling skills of students. The test looks to assess how proficient students are in throwing, striking, and catching movements (Ulrich, 2019). This assessment instrument is based on all new normative data that was collected from a large sample from the years of 2014 to 2017 (Ulrich, 2019).

PE Metrics is another formal assessment tool; it is designed to assist teachers in assessing the SHAPE National Standards. Appendices A, B, and C are three examples of assessments which focus on Standard 1. Each assessment has clear criteria that the teacher is looking for in terms of performing a fundamental motor skill or movement pattern correctly. Using formal assessments tools created by SHAPE America, such as PE METRICS allows teachers to trach the progress of their program. If a teacher takes the time and puts in the proper effort, they can also edit assessment tools they have been using to ensure that also follow the National Standards.

The FitnessGram is a popular formal assessment tool, created by The Cooper Institute, that is used nationwide. The FitnessGram comes with a designed set of protocols for teachers and students to follow throughout the course of the assessment time (Chepko et al., 2018). The FitnessGram emphasizes the assessment of health-related components of fitness. The FitnessGram has mathematically computed bands of competency levels for students to achieve that are based on a national database (Chepko et al., 2018).

Herrmann et al. (2015) have developed another formal assessment that is known as the MOBAQ-test instrument. Herrmann et al. (2015) describe the importance of proper motor development through their work regarding basic motor skills. The authors of this study looks to explain how basic motor qualifications hold specific elements of physical activities that are justified through minimal prerequisites for the participation in the world of sports and exercise. The authors discussed that the fundamental motor patterns and motor skills that all children should develop over the course of their childhood are significant attributes to having a child develop effectively within all three learning domains (Herrmann et al., 2015). The authors consider the psychomotor, cognitive, and affective learning domains as the main three areas of a child's development.

Herrmann et al. discuss how the MOBAQ-test instrument is an objective assessment tool that clears educators a clear way to determine whether a child as "passed" or "failed" a specific basic motor qualification. As part of the study, they also define basic motor qualifications as physical skills that can either be "passed" or "failed." This study developed the MOBAQ-test instrument to test individuals on their basic motor qualifications and skills (Herrmann et al., 2015). The testing and assessment criteria within the MOBAQ instrument has been developed with the idea of each child being able to achieve the specific basic motor qualifications within a predictable time. Herrmann et al. also gives examples within their study of specific fundamental movements patterns and motor skills such as swimming. There is board consensus within the learning standards and culture that says the children should be able to swim. The MOBAQ-test instrument gives specific swimming criteria that is objective for educators to use for students to gauge their skill level.

Herrmann et al. (2015) was able to implement the MOBAQ-test instrument into a K-12 setting to examine the schools program effectiveness. The study was conducted over the course of a year. The research analyzed at the change and development of the students' motor skills and how the improvement of skills impacted the quality of the physical education program. With the used of an objective assessment tool, the MOBAQ-test, the school and researchers were able to gather specific percentages of student's achievement learning in the basic motor qualifications.

Scheuer et al. (2019) conducted a systematic review of literature in order to determine the levels of fundamental movement patterns and motor skills of primary school children aged four to 12. The researchers collected and synthesized the data to gain a new understanding of the quality and application of the assessment tools that were used (Scheuer et al., 2019). Over 20 assessment instruments were viewed over the course of the study and had been tested for their validity and reliability. The review breaks down all of the assessment tools gathered into two categories. The categories include an assessment tool that addresses "motor abilities" (e.g., moving through the school, function of daily task) and the other category of assessment tool addresses "motor skills" (e.g., skipping, running, jumping) (Scheuer et al., 2019). Out of the 20 assessments tool collected in this study, 16 were found to be both valid and reliable based on the information presented to researchers through the desired State and National standards. From the results of this study, a majority of assessment tools found followed ethical education practices that are worthy of student completion allowing for educators to have valid results that align with learning standards.

Ingegerd (2009) conducted a study that views different assessment tools and discussed their validity. Along with the different assessment tools, Ingegerd looked to integrate the Motor Skills Development as Basis for Learning (MUGI) assessment tool. The MUGI is an

observation-based checklist that is an assessment tool that measures the gross motor skills. As well as measuring the gross motor skills, the MUGI acts as an alternative to improve children's motor skills in practice (Ingegerd, 2009). The MUGI included fundamental movements patterns and motor skills. Ingegerd took the MUGI to the public setting where he was able to use the assessment tool on roughly 400 kindergartens through second grade children. The assessment process and tool were implemented for a year. The assessment provided feedback for the physical education teachers as well as the studies continuously over the course of the year. After conducting the research, the students that were in the intervention group saw a significant improvement compared to the students that did not receive the intervention (Ingegerd, 2009). Therefore, using this well-established assessment tool, MUGI, it can act as a way to increase effectiveness in the physical education setting. The MUGI and other established assessments tool that have been found as reliable and valid can improve the assessment process and physical education curriculum.

Informal Assessments in Physical Education

Many teachers find it challenging to effectively use the above-named formal assessments in their instructional units since in many instances the formal assessments take much more time for one to complete it correctly (Walters et al., 2023). Physical education teachers oftentimes are in a time crunch with class time; therefore, they find themselves using assessment tools that still provide important data on the student's skill and learning, but do not take very long to complete (O'Sullivan, 2012). Physical educators want to get the students into the physical education setting and moving and learning for a majority of the class time. Having students complete formal assessments isn't ideal for every unit. Also, with formal assessments typically compiling a ton of data, many physical education teachers simply do not have the time in their school

schedule to compute all of the data to best benefit the curriculum and students (Walters et al., 2023). Therefore, many teachers will use informal assessments in the physical education setting.

Informal assessments are a way to collect information on students without the use of standardized instruments (Chepko et al., 2018). An informal assessment is typically developed by each teacher or a group of teachers to use for their students. These assessments are more specific and individualized to a program and the skills a program is trying to teach, as they are self-developed assessments. Physical education teachers will often share their informal assessments for others to view and adjust as needed. Physical education teachers will use rubrics, exit slips, quizzes, checklist, grading scales, and a variety of others to assess all three domains of student learning. Even though informal assessments are self-developed and not necessarily backed by a large-scale validation study, an adequate teacher will make sure the assessment tool is valid and follows and reflects National Learning Standards (O'Connor & Penney, 2021).

Teachers' Concerns with Assessment in PE

Every teacher should have a baseline knowledge about both formal and informal assessment and follow the National Standards with them as they earn their certificate in teaching physical education. Even though individuals are certified to teach, they may not feel the most comfortable in assessing students accurately. Some physical education teachers may struggle in identifying the National Standards their assessment tool addresses, while others may lack the ability to effectively assess in such a way that allows for useful data to come from it. In the past few decades, the assessment process has been underplayed and neglected in the training of future professionals and school based physical education teachers (Chng & Lund, 2018). In addition, one of the biggest problems in the assessment process is the subjectivity of the teacher (Meissel

et al., 2017). A teacher's interpretation and emotions can commonly play a role in the overall assessment of the students, especially in the physical education setting (Chng & Lund, 2018).

Assessments in the physical education environment is often completed through observation. These observations can lead to an inaccurate source of data due to teacher subjectivity. Providing and using objective formal and informal assessment tools, then, can assist all teachers in the assessment process. An objective assessment gives the assessor clear and precise criteria that the student can either perform or they cannot as they look at levels of performace. For example, a part of a formal objective assessment that is looking at skill of throwing a ball, the assessment may say "a student can throw a ball a distance of 70 feet in the air." This criterion is very precise and can easily be measured as a student can either perform the task or not. The use of objective assessment tools can be very beneficial for new and experienced teachers as they look to effectively assess students to collect information as well as follow the National Learning Standards for physical education.

Due to the different layers of teaching, planning, assessing, and following national and state learning standards, it can be a very challenging task for teachers to efficiently and effectively assess students. Also, it can be challenging to use such formal assessment tools given the limited time teachers have. Many of the formal assessment tools, such as the TGMD-3 and Fitnessgram, it can take a fair amount of time to precisely use. Again, as other subject areas have clear and precise assessment tools that follow the national and state learning standards, the world of physical education lacks such assessment tools and guides. Physical education teachers do not have the clearest direction on what exactly students should be able to perform at the end of each grade. This has made the assessment process become blurry for some educators.

The "Ladders to Success" for Physical Educators

As stated earlier, the National Learning Standards should be used as a guideline and an idea for teachers to follow when it comes to time for creating curriculum and assessments (Kelly et al., 2010). For new and even veteran teachers, interpreting the National Standards for their program is not always as clear as one would like for them to be. Graham, Fortner, and Strawn are three Physical Educators who struggled to use the National Learning Standards to the best of their ability while they were assessing their students. The three came together and all agreed that there are no specific indicators to objectively assess students in the physical education setting while following the National Learning Standards. They came to the conclusion that a new assessment guide needed to be developed in order for all physical education teachers nationwide to be able to effectively use the National Learning Standards while objectively assessing students.

Because National and State Physical Education Learning Standards are often written in a vague language allowing for teachers to interpret the standards as they wish, Graham, Strawn, and Fortner. worked together to create a guide to assess the progress of students for physical educators, parents, administrators, and students (Graham et al., 2023). With the use of the National Physical Education Learning Standards, primarily one through three, they were able to create a series of ladders that give individuals a straightforward and objective way to measure the necessary progress towards achieving each grade level competencies (Graham et al., 2023).

Dr. Graham and his team were able to develop a series of sixteen different ladders that focus on desired fundamental movement patterns and motor skills. The use of the ladders as the assessment guide has been created to evaluate the progression of fundamental movement patterns and motor skills of elementary level students (K-5th). Each ladder has nine rungs and clearly

describes the progressions and interpret the National Learning Standards to make it easier for educators, administration, parents, and students to use (Graham et al., 2023). These ladders can be used for the youngest of students at the kindergarten level, all the way up to the high school aged students. The ladders are designed to show proper skill progressions as it follows grade level competencies. The fifth rung of each ladder is designed to be the recommended benchmark for all students before they leave their elementary physical education program at the fifth-grade level. With that said, each teacher and district have the opportunity to decide where the bar is set for their students as it relates to the physical ability the students are expected to achieve for each grade level.

The ladder assessment guide (Graham et al., 2023) is a newly established way to assess elementary age students to determine their overall ability in the psychomotor domain as it relates to fundamental movement patterns and motor skills. Each of the sixteen ladders is organized from bottom to top showing a logical progression of skill. For example, for the soccer dribbling ladder, Rung One is stated as "Using your feet or toes, tap on top of a ball 10 times alternation feet while keep the ball inside a hoop" (Graham et al., 2023). This skill would be one of the most basic skills that a young child, ideally kindergarten or first grade, could do in terms of working in their own personal space with a soccer ball. This activity can be performed in a very controlled setting while being completed at each student's own pace. As one moves up the ladder, the reader can see the natural progression of skill. Rung Five is stated as "Avoiding stationary objects, use the inside of your feet to travel forward while tapping a ball a distance of 30 feet" (Graham et al., 2023). This activity and rung is more complex than the ones below it, but yet still follows national benchmarks that students are expected to demonstrate. At the top of the ladder, we find Rung Nine. Rung Nine is presented as "Complete the soccer dribbling maze in 30

seconds or less" (Graham et al., 2023). The successful completion of this activity would suggest that a specific student is physically capable of performing the proper fundamental movement pattern and motor skill of soccer dribbling that is proposed by the National Physical Education Learning Standards and benchmarks.

Obviously, not all fifth-grade students are going to be able to perform the correct fundamental movement patterns and motor skills at the highest rung. Graham and his team state that within their work that some of the ladders may be more fitting for students while other ladder rungs are not exactly ideal for students (Graham et al., 2023). The point of this guide is to give teachers, students, administrators, and parents a realistic and objective idea of the psychomotor domain of each student as the ladders relate to the National Learning Standards. The Ladders to Success appear to be one of the few large-scale, easy to use tools linked to the current National Learning Standards for Physical Education. More importantly regarding this guide, physical education is one of the only content areas in a child's educational career where they will be assessed in the psychomotor domain on a regular basis. The Ladders to Success progressions primarily focus on National Learning Standard 1. Standard 1 is the predominant standard that foci on a student working in the psychomotor domain has they demonstrate competency in their fundamental movement patterns and motor skills.

There are many features regarding the use of these ladders that pique the interest of many educators as well as the researcher. For the researcher specifically, testing and using these ladders in a real-world setting are what supplies the level of interest. There are many questions that surround these ladders. How easy will these to work in a large group of students? Can students easily follow the ladders and understand what is being asked of them? Are these truly objective criteria allowing for teachers to have a black and white answer for the ability of their

students? There are many questions that can be asked regarding the use of these ladders as an assessment guide.

Educational assessments of motor skills in the physical education setting include many different features and aspects that each teacher has to consider as they look to utilize an assessment tool in their class. A motor skill assessment tool differs from just a standard educational assessment tool. A skill specific or general motor skill assessment tool can take many forms, but ultimately it looks at either the process of the skill or the end product once the skill is performed. For example, the assessment may look at the process and fundamental skills of a child throwing a ball. The assessment might be seeking to find if the child is sitting in opposition and is not concerned about how far they throw or how accurate they are. Other assessments may focus on the end product of "how many times did the student hit the target" and not focusing on the correct throwing form. Depending on how the assessment tool was developed, it may look to gather information on the process and end product of a motor skill.

Whether the teacher is using an already completed formal assessment or has developed their own, each teacher really needs to decide what is the assessment tool going to assess and how will the information from the assessment tool be used. Formal and informally developed assessment tools are often backed and supported by National Learning Standards. Regardless of formal or informal assessments, all assessment tools look to provide the teachers with information that can help assist in the educational experience for all students.

The FitnessGram is popular formal assessment tool that is used nationwide that is created from The Cooper Institute. The FitnessGram comes with a designed set of protocols for the teacher and students to follow throughout the course of the assessment time (Chepko et al., 2018). The FitnessGram has mathematically computed bands of competency levels for students

to achieve that are based on a national database (Chepko et al., 2018). While both the FitnessGram and TGMD-3 are two examples and nationally known staples as a formal assessment tool, these types of assessments have specific focuses for teachers and students.

Use of State and National Learning Standards in Physical Education Curriculum

State and National Learning Standards direct the way for educators on what to teach to their students. The learning standards provide outcomes and benchmarks that teachers should strive for each of their students to achieve over the course of their educational career. Regardless of the subject area, teachers should use the State and National Learning Standards as a guidance document when it comes to planning curriculum. In the physical education setting, the use of the State and National Learning Standards will ensure proper and effective benchmarks and outcomes for students to become physically literate individuals (SHAPE America, 2019). As stated before, the Physical Education State and National Learning Standards are unique as physical education is one of the only subject areas that has to educate the students in all three learning domains. Therefore, following the standards is a consequential part of the curriculum planning process.

In physical education as in other core subjects, assessment of students' knowledge and skills is a vital aspect for validating students' growth. Subject areas such as science and math primarily assess students on their cognitive knowledge and skills. Through the use of tests, culminating activities, worksheets, quizzes, and more are commonly used to gauge students' mastery of new material. Straightforward curriculum guides for teachers provide very clear and precise direction as to what students should be learning each day in English, Math, and other subjects. Furthermore, national standards in content areas such as Mathematics provide overarching goals with very specific accompanying benchmarks provided to delineate what

students should be learning at differing points in their educational career (National Council of Teachers of Mathematics, 2020). Physical education teachers, across the U.S., however, this is not the case of being given specific benchmarks that students must reach before they continue onto the next grade.

In physical education, the National Physical Education Learning Standards serve as a guideline for educators and states as curriculum is developed for students. Whether it is lesson objectives, unit goals, overall curriculum masterplans, or assessments, they have some level of attainment to the Learning Standards (SHAPE America, 2013). Unlike the core content areas, like math and science, physical education isn't as heavily regulated or observed upon at many states education level or even many districts around the United States. As unfortunate as this is, and many physical education teachers continue to fight to have physical education recognized at the same level, it does allow for some more flexibility and open interpretation of the National Physical Education Learning Standards. With that said, physical education teachers do have the opportunity to be creative with their curriculum plans, lesson objectives, and assessment as they attach to the National Learning Standards (SHAPE America, 2013). Having the fluidity of that of the National Physical Education Learning Standards can lead to problems with developing appropriate curriculum for students.

Physical education teachers, college professors, doctorate students working in the field of education, and everyone in between have been challenged with finding the best practice to assess students in the psychomotor domain for years. Each subject area, as well as physical education, has National and State Learning Standards that the curriculum and the teachers need to follow. These learning standards are an outline for what the state and nation expect for the students to be able to do as well as have learned by the end of each grade level (Graham et al., 2023). Each

state is responsible for creating their own standards that they want their teachers to follow as they develop curriculum for their students. Some states' learning standards closely resemble the National Learning Standards more than others (Graham et al., 2023). Since each state is required to create their own Learning Standards based off the National Learning Standards, the National Learning Standards have been written in a very board use of language. This allows for each state to create their own standards, as well as critique and adjust the learning standards as they wish.

The National Physical Education Learning Standards are written for all students in a Kindergarten through 12th grade. As a child moves through the grade levels the focus of Standard 1 slightly shifts depending on where the student is during their educational journey. At the elementary level, National Standard 1 foci on having students demonstrate a combination of fundamental motor skills (Couturier et al., 2014). Such locomotor skills include hopping, galloping, running, skipping, and many others. While working on locomotor skills, students also gain experience working with nonlocomotory skills such as balance, transferring weight, rolling, twisting, bending, etc. Lastly, at the elementary level, National Standard 1 foci on manipulative skills such as catching, kicking, dribbling, and throwing. Along with the fundamental motor skills and movement patterns, Standard 1 also provides opportunities for students to practice basic movement concepts in dance and gymnastics. In an overall view of National Standard 1 at the elementary level is to provide students with practice experiences using locomotor, nonlocomotor, and manipulative skills small-sided practice tasks (Couturier et al., 2014).

As a student continues to grow and become more physically literate, National Standard 2 directs its focus to applying tactics and strategies to modified games while also having students demonstrate fundamental movement skills (Couturier et al., 2014). This all happens during the middle school (Grades 6-8) period of a child's life. During grades six through eight, National

Standard 1 foci more on giving students the opportunity to practice skills in a different light. Students typically have more time to practice skills as they relate to invasion and field games, net and wall games, target games, fielding and striking games. Building off of skills that students have developed in their elementary physical education program, the middle school outcomes look to advance skills such as throwing, passing, catching, shooting on goal, playing offense and defense, striking, serving, and many other skills as they relate to a specific activity (Couturier et al., 2014). While students practice on more traditional skills as described above, there should also be a focus on dance and rhythms, aquatics, outdoor education, and individual performance activities in every middle school physical education in order to best follow National Standard 1.

Figure 1.2

National Standards and Grade-Level Outcomes for K-12 Physical Education

Standard 1: The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2: The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3: The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4: The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5: The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

Figure 1.3

Variety of States Standard 1 and Grade-Level Outcome for K-12 Physical Education

New York Standard 1: "Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health" (New York State Department of Education, 2020).

California Standard 1: "Demonstrate the motor skills and movement patterns needed to perform a variety of physical activities" (California State Board of Education, 2009).

Georgia Standard 1: "Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities" (Georgia Department of Education, 2018).

South Carolina Standard 1: "The physically literate individual demonstrates competency in a variety of motor skills and movement patterns (psychomotor domain)" (South Carolina Department of Education, 2021).

As a student enters the end of through educational experience at the high school level, National Standard 1 looks to provide students with a bit of a different educational experience compared to their previous years of school. During grades nine through twelve, National Standard 1 shifts its focus to having students become college and career ready as they are able to demonstrate the ability to plan and implement different types of personal fitness programs, the ability to perform two or more lifetime activities, and model positive ways they can stay physically active after they leave high school (Couturier et al., 2014).

Now gaining an understanding of what the National Physical Education Learning Standards are presented to the nation from SHAPE America, individual educators can view their own State Physical Education Learning Standards to survey if the two relate well. Within just these few examples in figure 1.3, the readers can see the difference in how each state interprets the National Learning Standards which can change to fit the overall objective of each states educational system.

Kniffin and Baert (2019) expressed how assessment in the education system has been in the spotlight now more than ever. State and National Learning Standards, assessments, proper lessons and other various forms is needed for student and teacher accountability. Kniffin and Baert (2019) state that there are many potential benefits of conducting assessment effectively. Benefits include productive communication, higher levels of student and teacher engagement, ownership, increase value, and positive reflection.

The study shares that assessment in the physical education setting has been slowly withdrawn because some teachers feel they do not need to show evidence of student learning. According to the study, the perceived time and management issue of conducting meaningful physical education assessments have contributed to the lack of implementation within the entire teaching process (Kniffin & Baert, 2019). The study supports the use assessments in the physical education setting for a few reasons. The main purpose of the study was to explain and illustrate how using various assessments methods is beneficial. Again, benefits include productive communication, higher levels of student and teacher engagement, ownership, increase value, and positive reflection (Kniffin & Baert, 2019). Lastly, one of the main supporting points from the research regards appropriate assessments. Kniffin and Baert (2019) state that the use of developmentally appropriate assessment tools can help determine where students are in the learning process in all three learning domains. It can also maximize student learning, which in return will increase the overall physical education environment and learning experience for students.

Buns and Thomas (2015) share their insight on physical education teacher's efficacy when it comes to standards-based instruction. The use of the standards-based instruction was found valid and reliable. While this study looked to administer standard-based instruction to 60

physical education teachers throughout 16 different schools, the findings were significant. Amongst all of the instruction and information given out to the 60 physical education teachers, all of the data collected after the use of standards-based instruction showed positive signs of improvement in instruction (Buns & Thomas, 2019). This study supports the idea that the use of standards-based instruction enhances the overall learning experience for students. Along with teaching instruction, following national and state standards in all aspects of the curriculum will trend towards having a positive increase in the learning environment.

Petersen et al. (2002) looked at the impact of the National and State Physical Education Learning Standards in action. As many states fight towards having statewide assessment in physical education, there are many positives and areas of impact that a teacher can experience following the National and State Learning Standards. The Petersen et al. (2002) describes four areas of impact while following the Learning Standards. The four areas of impact include program content, administrators and teachers, teacher education, and professional organizations (Petersen et al., 2002). The standards assist in teachers being more reflective in their curriculum, planning, and assessments tools that they put in place for their students to interact with. The use of the standards allows for teachers to grasp for "best practices." Petersen et al. (2002) argues that the "best practices" is the shift away from the traditional teaching experience and driving towards a more cutting-edge teaching approach and curriculum. By implementing these new and exciting ways to interact with students and educate all of them will empower physical education teachers to easily follow the State and National Learning Standards.

Weiyun (2005) found interest in examining the curriculum, teaching styles and practices, and assessments of elementary physical education programs. This study took into account 15 different elementary physical education programs to inspect the level of degree each program

was aligned with the National Physical Education Learning Standards. Over the course of the study, the researcher gather data from 48 lessons, 15 formal interviews with physical education teachers (Weiyun, 2005). Along with the interviews, the researcher also collected curriculum guides, unit plans and assessment sheets.

Over the course of the study, the researcher found that 12 out of the 15 physical education teachers followed and aligned their program's curriculum with the National Physical Education Learning Standards (Weiyun, 2005). Whether these 12 teachers aligned their curriculum intentionally or unintentionally, that was undetermined by the researcher. More importantly, the 12 teachers aligned the curriculum by designing appropriate scope and sequence for their students to follow. Also, within the lessons and curriculum, within the 48 lessons observed, 35 of the lessons provided learning outcomes that follow National Learning Standard 1 and 2 (Weiyun, 2005). By having lessons and curriculum that align with National Learning Standard 1 and 2, it permits students to become more competent and knowledge about different fundamental movement patterns and motor skills.

Lundvall (2015) looked into the challenges and different possibilities that affect the outcome of each student becoming a physically literate individual. Throughout the early 2000's, the topic of using the Learning Standards combined with physically literacy has dramatically increased. Over the course of Lundvall's study, three main themes appeared regarding physical literacy. The three main themes include the assumptions of the concept physical literacy and its educational role, sport development and physical literacy, and also the assessment process and physical literacy (Lundvall, 2015). While these three themes came to the forefront of Lundvall's study, the Learning Standards provide a critical tool to help teachers navigate their way around to make them the best possible teachers they can be, as well as provide experiences to have students

become more physically literate (SHAPE America, 2013). A unique prospective on this study is that Lundvall shares the importance of higher education. The role of higher education is to develop adequate physical education teachers that can effectively use the Learning Standards to create learning experiences that students can participate in that will enhance their physical literacy levels (Lundvall, 2015).

Physical Activity Rates in School-Aged Children

In America, physical activity rates in school aged children have plummeted over the past few decades (Hallal et al., 2012; Hastie, 2017). Many school age children find themselves not reaching the recommended levels of physical activity. Due to the lack of physical activity, many problems such as childhood obesity has taken over as lead concerns for physical education programs. The participation in physical activity provides many benefits for all individuals. A few of the main physical activity include, aerobic fitness, muscle strengthening, and bone strengthening exercise. Any and all levels of physical activity can improve physical, mental, and emotional health (Weiss, 2020).

As a nation, teachers and parents have seen a decrease in levels of physical fitness and general motor skill ability in our nation's youth (Erwin & Castelli, 2008). The United States Department of Health and Human Services (USDHHS) provide to the public physical activity guidelines for individuals of all ages. Children from the age of six through 17 years old should participate in 60 minutes or more of moderate to vigorous physical activity each day. Most of the activity time should be either moderate or vigorous intensity aerobic physical activity. At least three times a week, a child's physical activity level should include vigorous intensity activities. Within the overall 60 minutes or more, a child's activity should include muscle strengthening activities (e.g., lifting weights, cycling, hiking, dancing) for at least three days a week. Lastly, a

child should also incorporate bone strengthening physical activities (e.g., running, jumping rope, basketball, hopscotch) into their day at least three times a week (USDHHS, 2018). There are thousands of ways and activities that a child can stay physically active. Activities such as gymnastics, soccer, skiing, tennis, basketball, golf, and many others are great ways for individuals to stay active. As a family, activities such as running, walking, hiking, biking, swimming, playing catch are just a few ways that as a family everyone can stay physically active together regardless of their ability and age level.

In a study conducted by Dencker et al. (2008), the associations between daily physical activity versus aerobic fitness and the body fat in young children from the ages eight to 11 was evaluated. The study collected data using a cross-sectional approach where they measured the abdominal fat mass (AFM) and total body fat (TBF) of 225 participants (Dencker et al., 2008). Using a desired calculation method, the researchers were able to calculate the body fat distribution. In conclusion of the study, the research supports that there is a significant relationship in children performing vigorous activities as their total body fat percent was lower compared to their peers that did not perform as much vigorous activity. The research also supports that moderate- to- vigorous activity still shows positive correlations similar to vigorous, but the relationship of activity to body fat percentage is weaker (Dencker et al., 2008). In summary, daily physical activity and/or aerobic fitness translated to a lower percent of body fat for the young children that participated in this study.

Foster et al. (2018) states that physical inactivity is a predominant factor in the increase of childhood obesity rates. This study foci on collecting data on children the age of four to 17. Data in this study focuses in on both males and females over the course of the study. At the time of the study, the researchers found that only 33% of adolescents are reaching the recommended

60 minutes of physical activity per day. This study was created not to find new information, but to share and summarize how professional recommendations for physical activity and exercise can be beneficial for weight management in all individuals. There are many strategies that can be implemented in an individual or family setting to fight against physical inactivity and obesity. Professionals recommends that aerobic fitness, muscle strengthening, and bone strengthening exercise are all utilized for the prevention and treatment of obesity (Foster et al., 2018).

Foster et al. (2018) provides information from many professionals in the field as they state that the guidelines may need to be improved. As the recommendations and guidelines are nationally backed, Foster et al. (2018) suggest the guidelines need to improve their approach to addressing the parents and families of these children. It is critical that positive decisions are made with the child in mind. Parents, schools, educators, community members, and everyone involved should aim towards finding types of physical activity that are suitable and enjoyable for children. Seeking for sports, games, play areas, and other appropriate activities are great way for adults to increase the moderate-to-vigorous activities levels in youth. The researchers agree with and support the recommended levels of physical activity for children and adults but would like to the recommendations provide ways for individuals to stay physically active.

Landry and Driscoll (2012) share their concern regarding the increase obesity rate in the youth of America. Similar to the Foster et al. (2018) article, Landry and Driscoll are promoting individuals to increase their levels of activity to the recommended levels that have been nationally published. Landry and Driscoll (2012) recommend that children and adolescents should participate in physical activity on a daily basis. Professionals recommend that children and adolescents should partake in moderate-to-vigorous physical activity for one or more hours per day. Along with moderate-to-vigorous activity, children should also participate in muscle and

bone-strengthening activities three or more times per week (Landry & Driscoll, 2012). Following the guidelines can improve overall strength, cardiorespiratory fitness, and body composition. By staying physically active, children and adults decrease their cardiovascular risk factors which can negatively impact their health. As children grow into their adult lives, exercise improves overall health factors. Exercising can improve bone health, psychological well-being, cognitive recognition, performance in school and the work setting, and may also lead to a decreased risk in injuries (Landry & Driscoll, 2012).

Fundamental Movement Patterns

Fundamental movement patterns are physical movement skills such as manipulative, locomotor, and non-locomotor skills. (Lubans et al., 2010). Barnett et al. (2016) expressed the importance of fundamental movement patterns and motor skills for children. The researchers discussed how the public and profession define fundamental movement patterns and what is to be considered as a fundamental movement pattern (Barnett et al, 2016). Although there is some disagreement as to the exact movements which are "fundamental" (Barnett et al., 2016), researchers generally agree that locomotor, ball, and balance (non-locomotor) skills all hold a certain level of importance in the process of becoming physically literate. The field of Physical Education generally supports the promotion of the fundamental movement patterns and motor skills as a necessary component of a Physical Education program (Duncan et al., 2020). A number of factors both impact and can be impacted by youths' levels of fundamental motor skills.

The relationship between fundamental movement patterns and a child's body composition are often two linked together and discussed at similar times. Okely et al. (2004) looked to examine how strong on an association there is between fundamental movement

patterns and a child's body composition. The team's study was able to perform a cross sectional data collection from 4,363 children. The study selected chose six fundamental movement patterns (run, vertical jump, throw, catch, kick, and strike) to assess the children upon. As the child's skill was measured, their height and weight were also measured to find their BMI (Okely et al, 2004).

From the study, the results state that there was a significant relationship between a child's fundamental movement patterns and their body composition. That is, the results indicate that a child's ability to perform such fundamental movement patterns and motor skills was significantly related to their BMI (Okely et al, 2004). As the ratios were adjusted to provide the most valid data, the research identifies that children that are overweight are less likely to possess a high level of proficient fundamental movement patterns and motor skills. Okely et al., (2004) also went ahead and broke down the data even more. The researchers state that when locomotor and object control skills were assessed, healthy weight boys and girls were two to three times more likely to possess a higher level of locomotor skills than individuals would were overweight. With all of that said, the study suggests that steps need to be taken to prevent unhealthy weight gain in children and adolescents.

Having children and adults being physically active is a critical role in the development of an individuals' body. Dapp et al. (2021) provides an ample amount of evidence showing the positive association between the level of physical activity and the level of motor skill ability in children. While this association is clearly present, it is less clear on how to structure motor skill experience in order to have the optimal amount of growth in efficiency. The researchers were able to create and perform a longitudinal study that looks at groups of children who had different patterns of physical activity. Some children participated in structured physical activity, others

participated in unstructured physical activity, some children had a combination of structured and unstructured physical activity, and the last group had no physical activity time at all (Dapp et al., 2021).

From conducting the study, the result show that when a child engaged in structured physical activity, whether exclusively structured or a combination of structured and unstructured, the child's gross and fine fundamental motor skill directly benefited. Children who participated in strictly unstructured physical activity had lower levels of success and lacked effectiveness (Dapp et al., 2021). While the study states many thoughts, the overall statement that has been found from the work done shows that the development of fundamental movement patterns and motor skills are allowed to become more properly developed when the child is exposed to structured physical activity time. Lastly, along with the structured physical activity time, the development of skill is enhanced even more when the child is given opportunities to practice in a structured setting.

Holfelder and Schott (2016) conducted a study that focused on how physical activity impacts the relationship of fundamental movement skills of children and adolescents. The researchers were able to create a cross-sectional study where they viewed the relationship between fundamental movement skill and physical activity among specific different groups that vary in gender and skill (Holfelder & Schott, 2016). Through this study, the researchers were able to find that there is strong evidence that shows a positive correlation between the amount of physical activity in which an individual participates and their level of fundamental movement skills (Holfelder & Schott, 2016). The researchers also explains that the participation in organized physical activity leads to higher levels of fundamental movement skills compared to others who did not partake in organized physical activity.

In a study conducted by Barnett et al. (2009), researchers examined the importance of motor skill proficiency and how physical activity participation affects the level of proficiency in individuals. This study looked at the proficiency levels of specific skills such kicking, catching, throwing, and other locomotor skills such as hopping, side gallop, and jumping. School grade children varying in gender were participants in the study. The study gathered information on the relationship between the amount of time that adolescents spent participating in moderate-to-vigorous or organized physical activity and the overall skill level proficiency (Barnett et al., 2009).

Through the study, there were 481 participants. With the population given, the researchers were able to determine if a child who was "object control proficient" were 10% to 20% more likely to participate in vigorous activity (Barnett et al., 2009). They found that the proper development of fundamental movements patterns and motor skills in elementary aged school children can significantly impact an individual's levels of physical activity later on in life. The research shows that object-control skills appear to need more total activity time compared to locomotor skills. Barnett et al. (2009), suggest that motor skill development should become a main focus in a child's life. Programs such as childhood interventions such also aim to promote long-term physical activity levels for all youth.

Eddy et al. (2021) shared their perspective on the level of fundamental movement skills primary-aged school children have based on the data they collected. Through their own research and other supporting literature, evidence suggests that many children struggle to acquire the appropriate fundamental movement skill. Children who are at an increased risk of not developing the appropriate fundamental movement skills could experience long-term health problems that they can experience throughout their life (Barnett et al., 2016). In this study, the researchers

conducted an online questionnaire that was distributed to the teachers and staff who are trained in developing the fundamental motor skills of elementary school children. Many of the questions were asked to gain the perceptions of the participants as they reflect on their own formal assessment data throughout their career.

A total of 853 people completed the questionnaire. Over 800 of the participants were either teachers, teacher assistants, or headteachers who all possessed a level of understanding of fundamental movement skills. The data gathered in the study suggest that there is an apparent gap in the teachers' toolbox regarding the ability to properly educate students (Barnett et al., 2016). Since the teachers have a lower level of understanding, this has trickled down to the children who may not be getting the fullest education experience. There are many barriers that teachers come across when assessing students effectively. Again, teachers may lack the necessary knowledge, may not have enough time to properly across, or may lack administrative student to have access to the necessary equipment and tools (Barnett et al., 2016). An overall consensus from the research states that the fundamental movements skills of children have decreased over the past few decades, but teachers may be to blame (Bolger et al., 2021). Teachers are the driving force for how much students can learn. If a teacher is limited in their ability, regardless of why, the development of fundamental motor skills for children are also limited.

Summary

While looking through the review of literature, common themes appeared across each area. More and more critical information came to the forefront to assist in the development and the direction of this study. Information from the review of literature has aided in the overall knowledge relating to the assessment of fundamental movement patterns and motor skills in 5th

grade students. Understanding more about the assessment process, use of the state and national standards, physical activity rates, and fundamental movements skills and patterns in the physical education setting has allowed for this research study expand past just gauging if students are physically literate.

Chapter Three: Methodology

The overall purpose of this study was to assess select fifth-grade students' abilities to perform the fundamental motor skills of overhand throwing, jumping rope, striking with a paddle, and kicking using the "Ladders to Success" tool, and to determine teachers' perceptions regarding the use of the Ladders as a tool for programmatic assessment. The following three main questions guided this inquiry:

1. What percentage of fifth grade students are able to successfully perform the motor tasks specified in rung five for each of the "Ladders to Success" skills progressions for the fundamental motor skills of throwing, catching, jumping rope, and striking with a paddle?
2. What difference, if any, exists between the number of male and female students who are able to successfully meet the tasks for rung five of the designated skills progressions?
3. What are teachers' perceptions surrounding the use of the ladders and of their students' performance relative to the fundamental movements of throwing, catching, jumping rope, and striking with a paddle?

The following sections will outline the methods that will be used to accomplish this study. This information includes the study's setting, adult and student participants, design, the selection of participants, potential bias, location, data collection, data analysis, genre, trustworthiness, and potential issues.

Setting

This study was conducted at one public elementary school found in a northeastern state of the United States. The school district was located in a small town (population: approx. 6,961)

(United States Census Bureau. 2023) within the Metropolitan Statistical Area (MSA). The school districts offer physical education classes for students K-12.

School A

School A is located approximately 20 miles away from the city limits. The district is comprised of three elementary schools, one middle and high school and educates approximately 3,009. Schools in the district draw students from both suburban and rural areas. The school district houses 1,411 students in grades kindergarten through five. The male/female ration is, 52/48, respectively. Looking at enrollment by ethnicity, 78 percent of students are Caucasian, 10 percent of the students are Hispanic or Latino, six percent of students are multiracial, and four percent of students are black or African American. Also, 46 percent of the students are economically disadvantaged. Lastly, the district has 491 students with disabilities, which accounts for 16 percent of the population (New York State Education Department, 2022).

School A is an intermediate school that is home to 4th and 5th grade students only. According to the New York State Education Department (2022), School A has a current total enrollment of 490, with the 5th grade population totaling 241. The school has two full-time physical education teachers. The physical education teachers have access to a variety of equipment, facilities, and resources. Students in School A receive physical education two or three times per week, with each class being 40 minutes long. Thus, students receive five lessons (200 minutes) of physical education every two weeks.

The researcher gained entry into the school district after the IRB approval was granted. This was possible due to the relationships that the researcher had built with the school district. Once the contact information of the school district personnel (school principal and athletic director) was secured, the researcher reached out with information about the study (see

Appendices I and J). School A administrators desired a letter explaining the research study to parents, which was promptly provided (see Appendix K).

Participants

Both elementary-age students and physical education teachers served as participants (latter) for this study. Each is outlined in more detail below.

Students

Subjects for this research were 5th grade students at School A. The fifth grade students have been chosen due to two reasons: first, the desire to gain information about elementary children's motor skills, and second, this grade being the highest grade in most U.S. elementary schools. The researcher expected to collect data from all 5th grade students (i.e., 125 – 150 students) at School A (e.g., Martinez-Mesa et al., 2014). This total number of students was chosen due to their contribution to the exploratory nature of this study (George, 2021). This study is considered exploratory since the skill progressions utilized in this study have not been previously studied in depth, and, this and other interested researchers may be interested in future potential studies on the topic. All students were physically able to perform the skills that were being assessed. If a student had a medical note stating they cannot participate in physical education class on the day(s) of data collection, they were not allowed to participate in this study.

Physical Education Teachers

Along with the 5th grade students who served as student participants for the study, the researcher also collected data from each physical education Teacher who has teaching responsibilities with the 5th grade classes who participated in the study. There were two teachers at School A. All of the adult participants have completed a bachelor's degree in physical

education, and are certified in K-12 physical education by the state with a professional certification. The researcher gained permission and consent to collect data from each teacher. There was one male and one female physical education teacher at School A.

Design

The type of research that was primarily used to conduct this study was a mixed methods design with that of a QUAN-qual (mainly quantitative, some qualitative) nature (Bryman, 2004). This means that the primary data source in this study was quantitative while a smaller, supplementary data source has been qualitative in nature.

From the quantitative perspective, this study followed a cross-sectional design, meaning, the study took a "snapshot" at one moment in time when the researcher was collecting data on the participants (Hopple, 2015). The qualitative portion of this study is reflective of the phenomenological genre. A phenomenological-based study looks to gain an understanding of the lived experiences of the participants within the study (Rossman & Rallis, 2017). Often times, a phenomenological study is conducted in a very small-scale setting with limited individuals participating in the study (Rossman & Rallis, 2017). Along with that, a phenomenological study wants to take into consideration the meaning that such experiences have had on individuals. Using a phenomenological approach allowed the researcher to reveal the perspectives of the physical education teachers relative to how well they think their students performed and potential reasons for their students' results.

Procedures

The following section details the procedures which were used to collect and analyze data. Because these procedures have been based upon experiences gained through a pilot study, the

piloting process has first been presented, followed by the data collection methods which was utilized in the study itself.

"Ladders to Success" Tool

The Ladders to Success assessment tool is a resource for physical education teachers to be able to utilize as it helps translates state and National Physical Education Learning Standards and grade-level outcomes. The tool allows for teachers to assess students objectively based on a specific performance indicator within a given rung on the ladder. There are 16 different ladders that incorporate many different fundamental motor skills and movement patterns. Within each ladder, there are nine rungs that state a specific skill target that the student could attempt to perform. The higher an individual moves up a ladder, the more advance the skills increase as it reflects the progression of grade-level outcomes for children through their K-12 education journey. Some of the ladders also look at specific locomotor skills. The Ladders to Success is a way for teachers who want a clear and simple breakdown of how they can apply the physical education standards to their curriculum and programs.

Figure 1.4

Specific Equipment That Will be Used in The Data Collection Process

Striking With a Long-Handled Implement

- Small-faced racquet ball racquets
- Small foam trainer tennis ball (Tennis ball sized)
- 39-inch Hula-hoop (Standard size)

Jumping Rope

- 8-foot Beaded jump rope
- 9-foot Beaded jump rope
- 10-foot Beaded jump rope

Kicking

- 8.5-inch Rubber playground ball (Two blue, two green, two red, two purple)
    - Different colors will be used to keep track of which participants attempted the skill.
- 39-inch Hula-hoop (Standard size) (One blue, one green, one red, one purple)
    - Colors will correspond with the playground balls. Hula-hoops will be used to corral equipment.

Throwing

- Tennis balls (Standard size)

Overall Equipment

- Floor Tape
- Dome cones
- Tape Measure

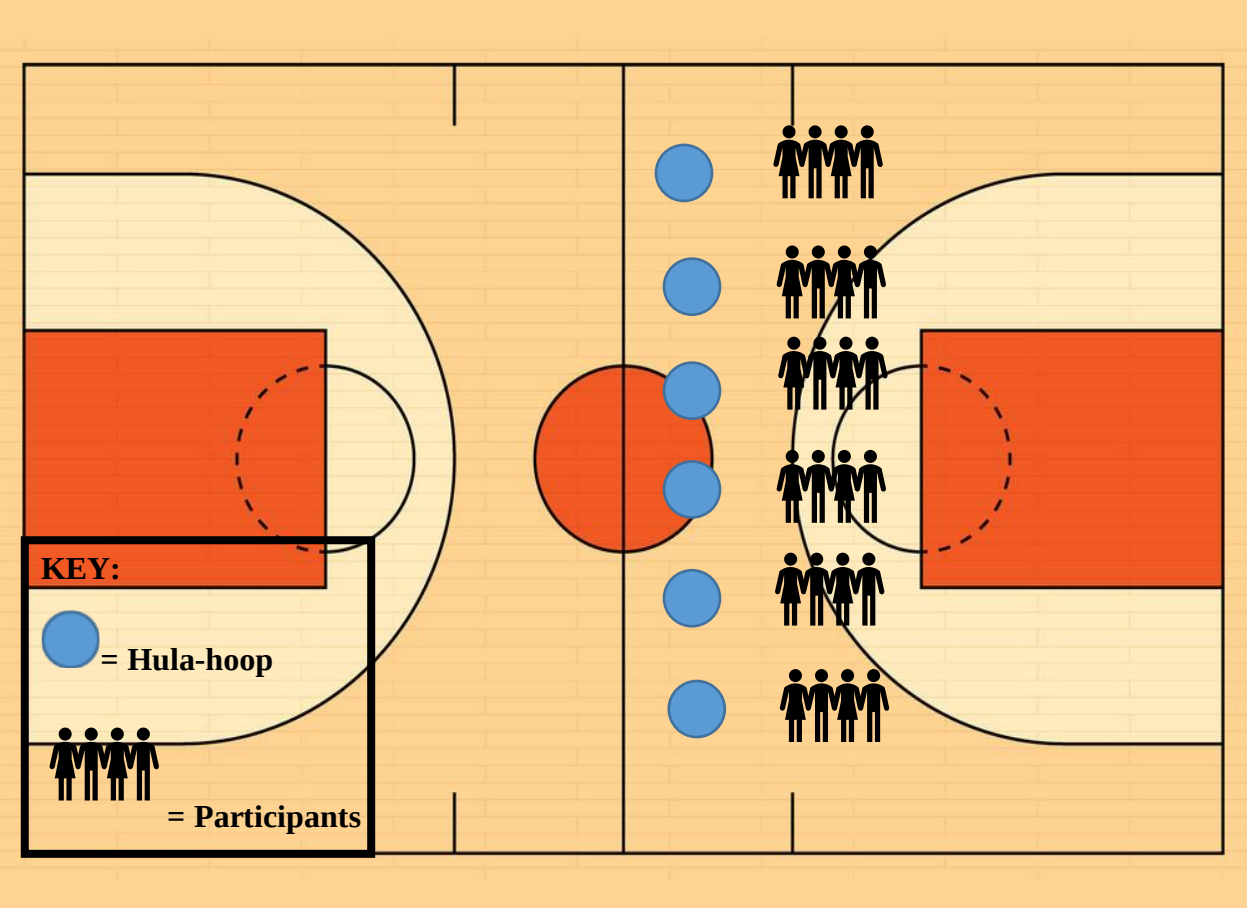
Striking with a Paddle

The very first task that participants participated in was striking with a short-handled implement. The researcher had the equipment already set up before the participants entered the gymnasium. The layout of the gymnasium can be seen in figure 1.5. There were six different spots where there the students were able to step inside a hula hoop with a racquetball racquet and

a small foam "high bounce" tennis ball. While the participants were sitting in their initial gymnasium spots, the researcher demonstrated the skill that the researcher saw looking for as well as explaining the specific steps the participants were to be taking. That is, the test was for students to strike the ball with one side of the paddle and then the other, consecutively, while their feet remain inside of the hoop. An attempt was considered successful if the student could strike six or more consecutive strikes without a miss. Once the researcher explained the task, the researcher then directed each participant to sit in a line behind each hula hoop. The physical education teachers and research aide also assisted the participants in this process to make sure each participant arrived at the desired spot. After the participants were at their spots, the researcher had the first participant in each group stand up, move inside the hula-hoop, and pick up the equipment. Before the data collection time, the researcher gave give each group of participants 20 seconds to warmup and get a feeling for the equipment. Once the 20 seconds was over, the researcher had the participants stop and the data collection time started. When the researcher said "Go!," the participants started to perform the skill. Once the participant lost the ball or was unable to continue on with the skill, they were directed to sit down with their equipment in the hoop until every student had made an error. Once everyone was done, results were tallied, and the researcher then had the students move to the back of the line and had the second participant step up to begin the same process. This process continued until all participants had attempted the first task of striking with a short-handled implement. Throughout the whole time of the first task, the research aide and physical education teachers assisted in the handling of equipment and classroom management but were not assisting participants with the skills.

Figure 1.5

Gymnasium Layout for Striking with a Short-Handled Implement



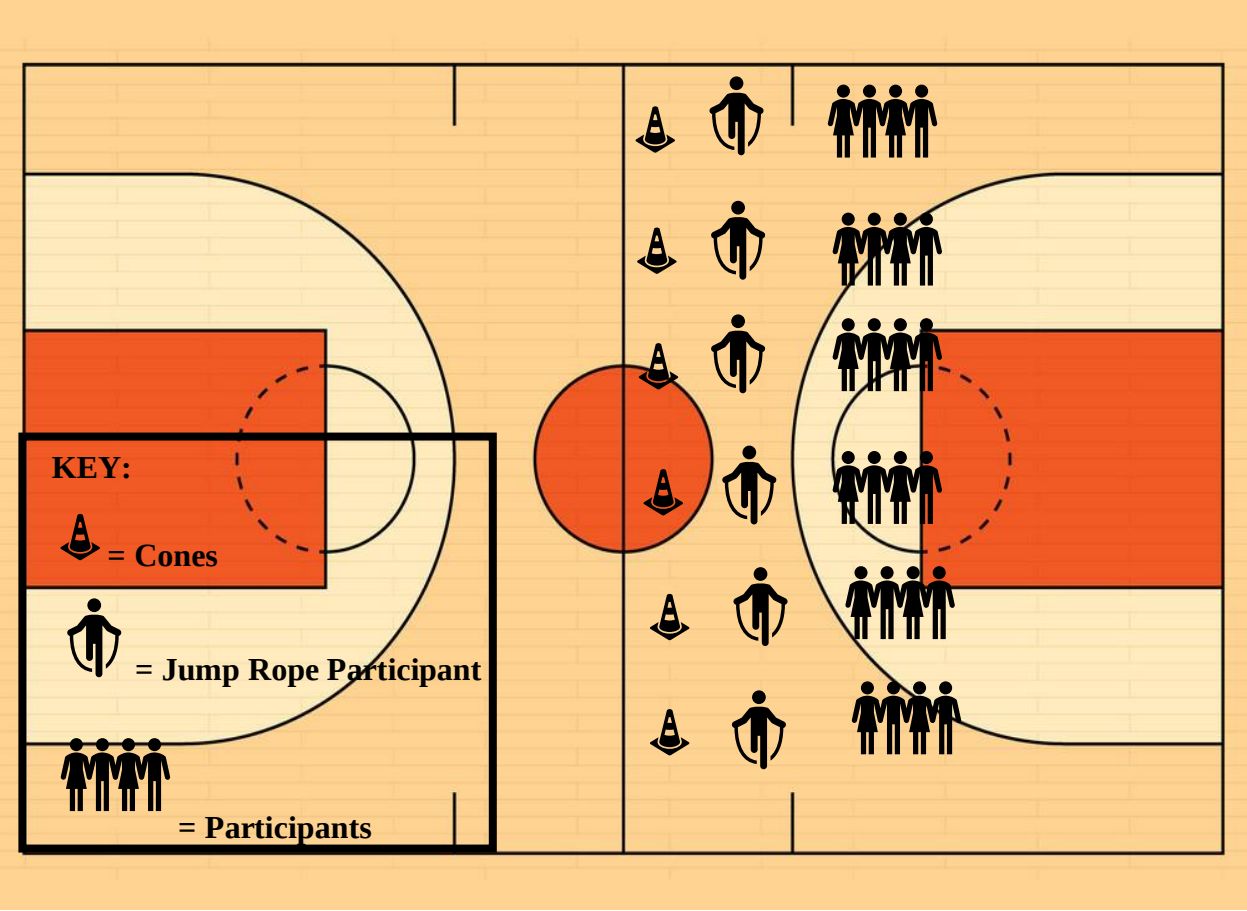
Jumping Rope

After all of the participants had attempted task one, the participants stayed in their lines as the researchers introduced the second task of jumping rope. The layout of the gymnasium for this task can be seen in figure 1.6. The researcher demonstrated the task; that is, each student was asked to jump a self-turned rope consecutively without letting the rope stop or missing a jump, until time is called. A successful attempt would be counted if the student could do this for 30 seconds. Once the participants saw and heard about how to perform task two, the researcher had the first participant in each line come and get a jump rope. The researcher and research aide were

able to size each participant with a proper jump rope by having the participant stand in the middle of the jump rope and have the jump rope handles reach the participant's chest. The researcher allowed for the participants to also pick their own jump rope if they do not prefer the jump rope that the researcher recommended. Once the participants have their jump rope, they went back to their line and stood in front of the cone, facing away from the rest of the class (to hopefully limit distractions and for the participants to focus on the task). Before the data collection trial, the researcher gave each group of participants 20 seconds to warmup and get a feeling for the equipment. Once the 20 seconds was over, the researcher had the participants stop and the data collection time started. Once all participants were ready; the researcher said "Go!" and started the timer. If a participant failed to make a jump or the jump rope stops, the participant would sit with the jump rope on the ground and wait until other participants were done. Time was called at 30 seconds, at which any remaining jumpers were stop and the attempt results were recorded; all students then walked the jump rope back up to the researcher and then had a seat at the end of their line. This process was the same for the next group of participants until everyone has attempted the task. During this time, the physical education teachers and research aide was able to assist in the handling of equipment, classroom management, but did not assist participants with the skills.

Figure 1.6

Gymnasium Layout for Jumping Rope



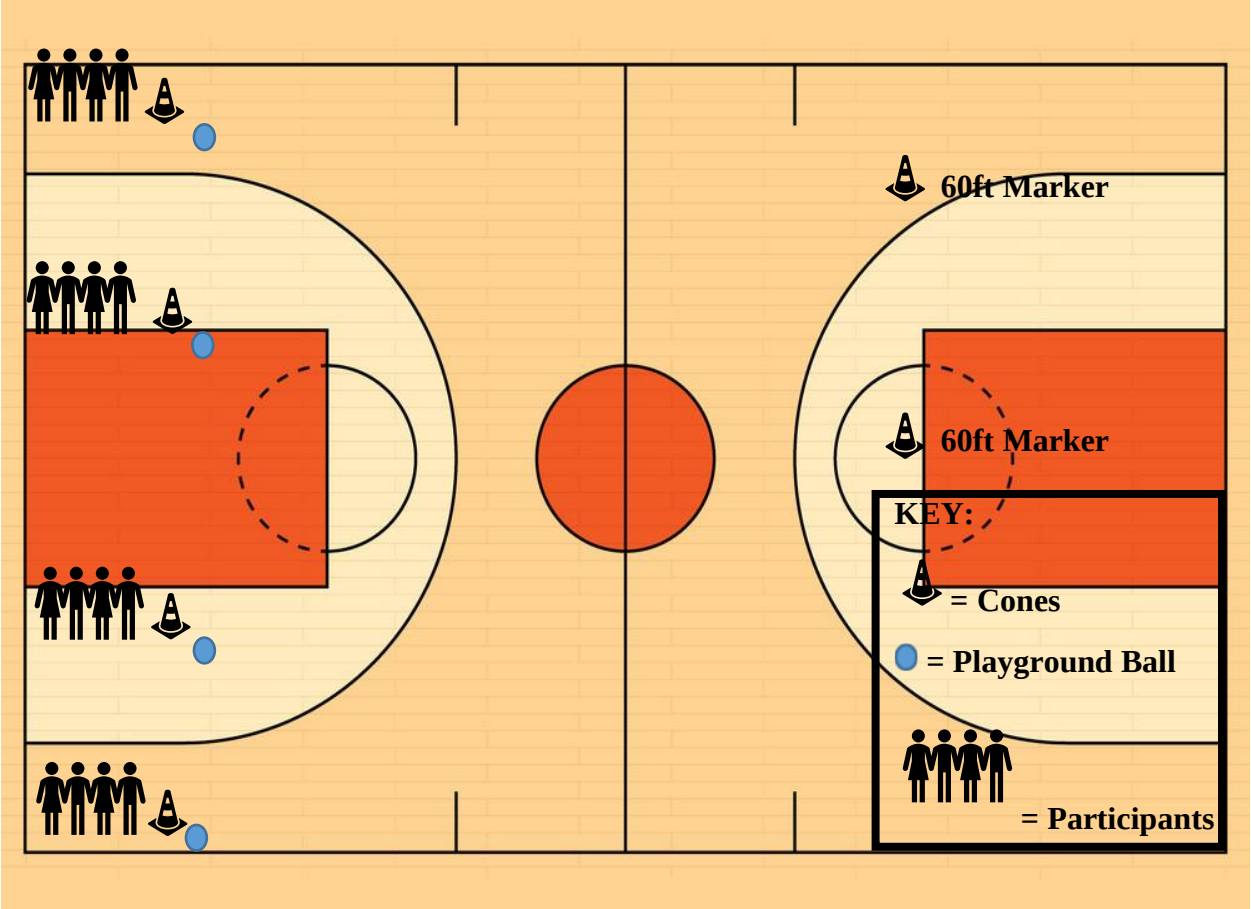
Kicking

For the third task, the participants were kicking a stationary ball. The layout of the gymnasium can be seen in figure 1.7. The researcher demonstrated what the task looked like. That is, participants were asked to see if they could kick an 8.5" rubber playground ball from a stationary position on the floor through the air as far as possible so that it would hopefully travel a distance of at least 60 feet. There were two different lines of cones which marked the distance of 60 feet. Students would first get a practice kick. For this practice kick, six students lined up at one cone line and were be directed one by one to kick the ball as far as possible, past the other

cone line, when given the "Go!" command by the researcher. They would then run and retrieve their ball and return the ball to the designated spot/hoop while the next six students stepped up to the line with a ball to kick. When all students have had the opportunity to kick, the researcher then directed half the class to sit behind one cone (the researcher collected data from these students) and the remaining half to sit behind another (the research aide collected data from these students). At their direction, two participants lined up, single file, behind the cone starting line. Each participant placed their ball on the line and then kicked the ball as far as they could, hopefully in the air. If the ball either travels in the air or rolled or bounced to the other cone line which marks 60 feet, it was determined that the student successfully completed this task. Once the participant kicked the ball, they retrieved their ball and placed it back in the corresponding hula hoop for others to use and sat back in their line, during which time their results were be recorded. During this time, the physical education teachers assisted in the handling of equipment and classroom management but did not assist participants with the skills.

Figure 1.7

Gymnasium Layout for Kicking



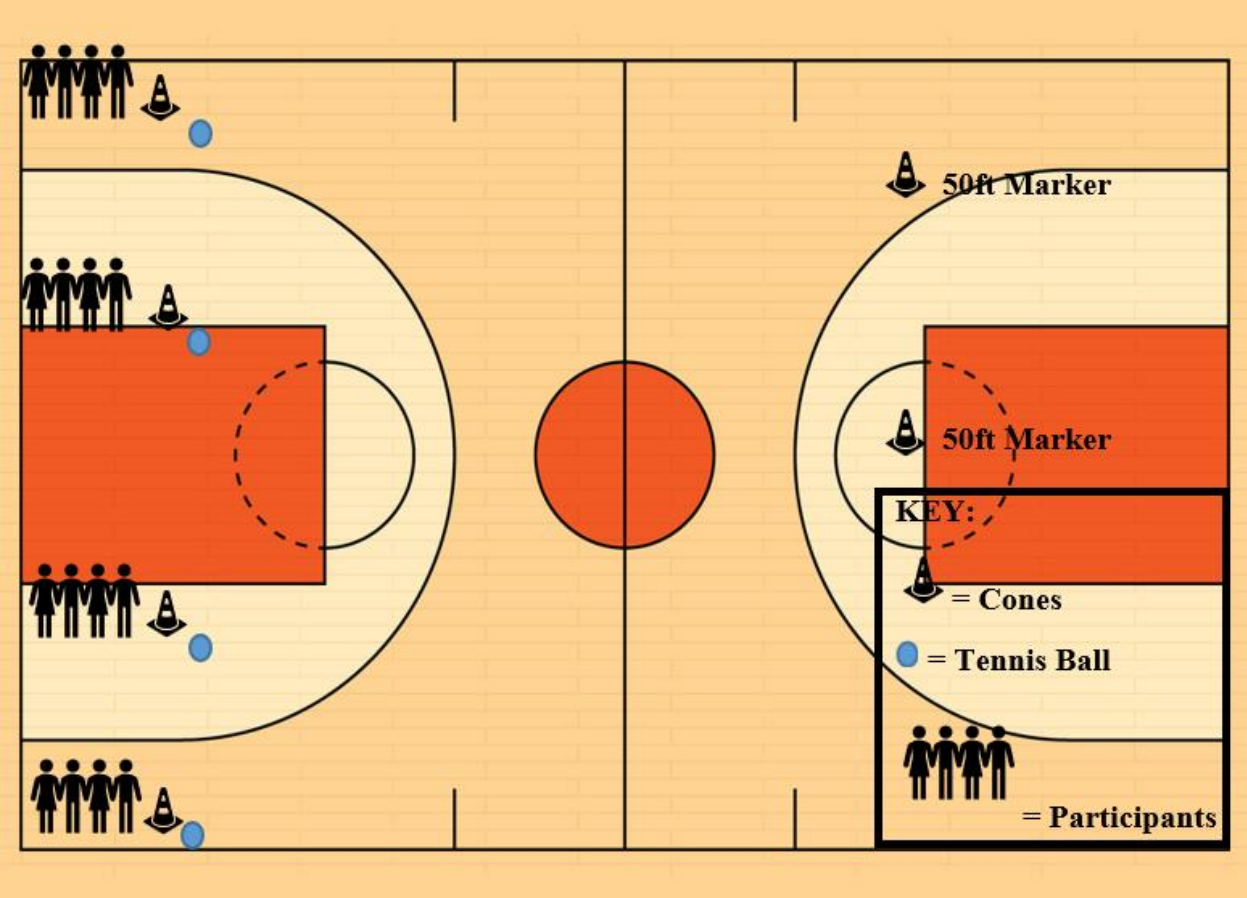
Throwing

For the four and final task, the participants continued to stay on the width part of the gymnasium just as they were after they attempted the kicking task. For the fourth task, the participants were asked to overhand throw a ball through the air. The researcher demonstrated what the task should look like. The researcher explained that this task was looking for the participants to overhand throw a ball in the air for as far as they could. If a participant could not get the ball through the air for as long as they would like, it is okay, and the researcher would ensure they are working hard and doing well. Along with that, the researcher communicated with

the participants about how to overhand throw a ball during the time of the demonstration. Throughout the gymnasium, there were different cones on the length portion that marked out the specific distances that the task was measuring. The researcher did not tell the participants what the cones are for. The researcher had the participants line up, single file, behind the starting line. The participants be used a standard size tennis ball for this task. Each participant picked up their tennis ball and stepped up to the line. Once the participant was ready, they attempted to overhand throw the ball as far as they could, hopefully in the air. Once the participant overhand threw the ball, they went out and retrieved their ball and placed it back in the bin for others to choose and use. After the participant attempted the skill, they moved to the back of the line and had a seat. They were asked to wait until everyone as attempted the task. During this time, the physical education teachers assisted in the handling of equipment, classroom management, but did not assist participants with the skills.

Figure 1.8

Gymnasium Layout for Throwing



After all of the participants had attempted each of the task, the researcher thanked all of the participants for participating in the study and that stated that everyone did a great job. The researcher then let the physical education teachers take the lead for the rest of the class time.

Teachers

The researcher used interviews to collect qualitative data from the physical education teachers. This information collected through the interviews assisted in providing background to the results found through the quantitative process. Lastly, in addition to interviewing the physical education teachers, field notes were also served as a means of collecting data at the site.

Interviews. The researcher conducted two interviews with the two elementary school physical education teachers who teach the fifth-grade classes involved in the study. A post-data collection interview was conducted with each teacher once all of the data had been analyzed. The two physical education teachers were interviewed only two days apart. This allowed for both teachers to give their honest thoughts as close together to each other. Also, the researcher emphasized the importance of collecting the interview data as close to the time of the data collection as possible. In keeping with established procedures, the interviews were conducted at a time and in a place that was convenient for both of the teachers as well as in a setting which will provide confidentiality (Hopple, 2015). Both interviews took place in the teacher's office which was located next to the gymnasium.

The pre-data collection interview script was created to gain insight from the physical education teachers to learn what they teach in the physical education setting and how they think their students will perform, all relative to the motor skills tests (see Appendix G). In keeping with established procedure, two outside content experts provided feedback to the researcher to allow for the greatest degree of content validity of the interview questions (Hopple, 2015). Questions were piloted and the interview script was revised as appropriate. The same questions were asked of each adult participant.

During interviews, data was collected by the use of an audio recorder. To ensure the data is collected, the researcher used two devices in the case that the main device failed to record (Treadwell & Taylor, 2017). The recording device was used during the entire interview for each interview.

During the entire interview process, it was very important that confidentiality remained in place. To ensure that the personal information of each adult participant remained confidential

and anonymous, all participants were given a pseudonym to keep their personal information safe. The researcher knows the pseudonym and documents which pseudonym are attached to each participant. All of this information has been stored on a thumb drive. The thumb drive is being kept in the researcher's advisor's office, behind locked doors and in a locked filing cabinet that only the advisor has access to.

Piloting Procedures

The pilot procedures were completed during the proposal phrase of this research study. The pilot study was conducted to ensure that all data collection procedures and interview script were both effective and efficient, in keeping with research conducted by other researchers such as Hopple (1994). This would allow for the researcher to find any flaws in the layout of the study and data collection process.

In December of 2022, the researcher was given permission by the school principal and physical education teacher to conduct a pilot study at School P, which is a small, rural school district that is roughly in the same proximity or region as School A. The researcher was able to work with one of the upper intermediate school's physical education teachers. The researcher was also able to meet and assess a class of 16 5th grade students. There were nine boys and seven girls that participated in the pilot study. During the pilot study, the researcher conducted a Post-Data Collection Interview (see Appendix H). Because all students in the class were involved with the piloting activity as part of their physical education class, no parental consent was deemed necessary in order to conduct the pilot study. In addition, none of the data collected was utilized as part of the larger research study and last names were not used as to ensure confidentiality.

Each component of the research process was conducted in the main gymnasium. The physical education teacher who participated in the study had an office that was connected to the main gymnasium. In the office is where the interviews took place as it was a safe and confidential space.

Previous to the piloting session, the researcher was able to develop an interview protocol/script that assisted in the process. The first meeting with the teacher, the researcher was able to interview her and gather her thoughts on a variety of different questions that the researcher had based on the interview script. By doing this, the researcher was able to fine tune the interview questions and script. The researcher added some questions, rearranged the formatting, and took away some questions to have the most fitting script possible. The pre-data collection interview took roughly 30 minutes. After this part of the pilot study was completed, the researcher took field notes about the experience in a debriefing session.

The following day, the researcher was able to come back to School P and work with a class of 16 5th grade students. This trial run provided many beneficial insights that would later overall enhance the study. The students participated in four motor skill assessments in the order of striking with a paddle, jumping rope, kicking, and throwing. As part of the layout for the students, the researcher gave instructions, directions, and a brief demo on each skill before the students performed each test. All of the students were given sufficient equipment for each motor skill (tennis racquets and tennis or foam ball for striking; beaded jump rope for jumping; 8.5" playground ball or foam gator ball for kicking, and tennis ball for throwing) and were allowed to choose, when appropriate, the piece of equipment that they felt the most comfortable using. In total, it took roughly 35 to 40 minutes to collect data on all of the student participants for each of the skills. During the assessment process, the 5th grade physical education teacher helped the

researcher by taking half of the class for the kicking and throwing skills to limit wait time. By doing this, the researcher realized that having a second person who is trained in the data collection process may be beneficial to the overall layout of the study. Because of this, it has been determined that a volunteer "research aide" will be trained to assist the researcher during the data collection process. Lastly, once all of the data had been collected and student participants left the setting, the researcher took more field notes.

After the data was collected, the researcher was able to compute and analyze all of the data (see Appendix F) using a spreadsheet developed specifically for this task. Once the data was compiled, the researcher was able to meet back with the physical education teacher in School P to conduct the Post-Data Collection Interview. Very similar to the pre-data collection interview, the researcher was able to fine tune the script after the interview process. Again, the researcher took a debriefing period to collect any thoughts and write down field notes. In total, the pilot study provided valuable insights which form the basis for the final decisions that were made for data collection and analysis of the main study, as detailed below.

Data Collection

This study collected data from two different sources: students and physical education teachers. As mentioned above, this data was collected by the researcher as well as a volunteer "research aide" which the researcher trained to assist in data collection. The different methods used for the collection of data from each of these sources are presented below.

Students

The researcher collected data on fifth grade students' ability to perform the overhand throw, kick for distance, strike with a paddle, and jump rope as outlined in more detail further below. More specifically, the researcher searched to determine if students can successfully

complete the tasks found on rung five of the "Ladders to Success" skill progressions for these motor skills (Graham et al., 2023). The researcher chose these four fundamental motor skills due to 1) these skills are foundational to a number of games and physical activities found in recreational, organized sport, and in physical education settings in which children commonly participate (both during childhood and later in life as leisure activities) (Graham et al., 2023), and 2) the researcher felt these four skills fairly represent and can provide an overall idea of the physical ability of 5th grade students in the United States.

The researcher collected this data from School A over a course of two consecutive specific days as agreed upon between the researcher and the physical education teachers. The assessment time took the entire class time and was presented to all students as a regular class activity. The data collection occurred over the course of two consecutive days to allow for every student to be able to participant if able. Also, by capitalizing on consecutive days, it allowed for minimal time between each class for outside interaction or influence. This ensured all of the different classes of students have appropriately the same amount of time in the school to gain educational experiences during physical education.

Collected data was manually written down on a researcher-developed data collecting sheet (see Appendix D). The data collection sheet was created to allow the researcher to easily and quickly record data on each student; there was one sheet for each physical education class of students. Participants' first name and first initial of their last name were previously received from the teachers and written down on the collection sheet. The researcher also had class photo rosters to use during class along with the names. The physical education teachers also help identify students throughout the data collection process since they knew all of the students. In addition to names, there was a column for the researcher to indicate the gender of each participant as

identified by the participant. If a participant would have liked to keep their gender identity private, that would have been allowed, although that data would not be used for analysis of research question three. In this study, every participant identified as either a male or female. Once a student performed a skill, if the subject was not able to meet the requirements for rung five, they were given a "0" in the specific fundamental motor skills column. If the subject did meet the criteria for rung five, they were given a "1" in the specific fundamental motor skills column. All physical data collection sheets are being kept in a secure location which only the researcher has access to, in order to ensure confidentiality of records.

To allow for the data collection process and interactions with the student participants to remain as consistent as possible, the researcher provided all of the equipment for use by students. The researcher brought the exact same equipment to ensure that the varying of equipment was not a factor in the performance of participants. The institution that the researcher is continuing study at provided all of the equipment making this possible. In figure 1.4, the researcher has created a list of the specific equipment that was used during the data collection process at the school for each class.

At the time of the data collection, there were specific steps and procedures that were to be followed each time data was collected. The participants would come into the gymnasium and complete their normal entrance routine under the direction of the physical education teacher, finishing with taking a seat. Once the physical education teachers did everything that they need to do regarding attendance and regular classroom maintenance, the researcher took the lead. The physical education teachers introduced the researcher and the research aide. The researcher briefly discussed why they were at their school and what the participants were going to be doing during that class time. Every interaction was positive and stated in an exciting manner. The

researcher then introduced each specific motor skills test to students, allow them a short practice opportunity, and then assessed them on the skill, all according to the procedures detailed below. The order of tests was first striking with a paddle followed by jumping rope, kicking, and then throwing.

Field Notes. At the completion of both interviews and the data collection periods with students, the researcher has detailed any pertinent field notes in a log kept expressly for this purpose. The field notes were written to add additional information to the research. The field notes are the thoughts and observations from the researcher during the interview process and data collection time. There were certain things that stuck out to the researcher later added more knowledge and ideas add to the study as well as future research. The field notes were done to reflect upon after the researcher left the data collection area. These notes were used later to give explanation for certain things or actions that happened.

Data Analysis

Three sets of gathered data from data collection were needed to be analyzed. These data sets included quantitative data from students' performances, interview data from teachers, and any possible field notes. Information on how each were analyzed is provided, below.

Students' Performance Data

The majority of data collected throughout this research study consisted of quantitative data that reflected upon the students' skill performances. Once data collection for a class had been completed, the researcher entered the exact data from the hard copy data collection sheet into the proper Microsoft Excel file (by school) and double checked to verify the accuracy of the data. Student participants (125 - 150 5th grade students) who have four data points detailing whether they could or could not perform the specific criteria for rung five for each of the four

skill progressions has been used for data analysis. If a subject did not complete all four skill tests, their data was not included in the data set.

The spreadsheet produced data and values which was automatically calculated through the previous programming of the Excel spreadsheet. Two content experts (one a computer specialist) assisted in verifying the accuracy of the programming. The Excel spreadsheet identified the following statistics for student participants: 1) the total number (i.e., sum) of all student participants, all boys, all girls, and all non-binary student participants; 2) the total number (i.e., sum) of all student participants, all boys, all girls, and all non-binary student participants who meet rung five for each skill assessment; and 3) the percentage of all student participants, all boys, all girls, and all non-binary student participants who meet rung five for each skill. This analysis allowed for the answering of research questions one through three.

To ensure confidentiality, all data will continue to be kept on the researcher's computer hard drive; this is protected by a password to which only the researcher has access too. To provide for a secure back-up of data, all personal information has been saved to an insertable thumb drive from the researcher's computer. This thumb drive will continue to be kept in the researcher's advisor's office beyond a lock door. To add another level of confidentiality, the thumb drive is being kept in a locked drawer to which only the researcher has access too. Also, as stated earlier, none of the adult or student participants' personal information is going to be shared with the drafts or final versions of this research.

Teachers' Interview Data

Upon completion of each interview, the audiotaped interviews were transcribed into a word processing program (Microsoft Word). To ensure content accuracy, the researcher checked all transcriptions against the original audio recording (Rossman & Rallis, 2017). A member

check was done once all of the data had been collected and transcribed. The member check served as a way for the researcher to make sure that all information and transcribed data is accurate prior to the analysis process. Once transcribed, the interviews were formatted to allow for the numbering of lines through the use of Microsoft Word in order to facilitate content analysis.

Once all of the interviews and data has been completed, inputted, and transcribed into the proper documents, the researcher started the process of content analysis. The researcher started by open coding the interview data in order to identify common meaning or themes across words, sentences, and paragraphs (Hopple, 1994; Strauss & Corbin, 1998). These open codes reflected common threads and thoughts from the interview data. An open code list was developed as through this process (see Appendix X). In addition, any insights the researcher had about the data and its meaning had been written in the researcher's logbook.

Once open coding was completed, data for each of these open codes had been digitally combined. At this time, data from each code/theme was further examined in order to confirm, disconfirm, combine prior insights, or even form new themes (Hopple, 1994). If necessary, data from different codes were combined to facilitate the process. Lastly, after all of the previous steps have been completed, the researcher created two assertions or main points from the reviewed and analyzed transcribed data.

Field Notes. During the time of transcribing the interviews, the researcher detailed any applicable field notes in a separate word processing document. The data was open coded and added to the analysis process of the interview data.

Trustworthiness and Ethical Practice

Many strategies were used during the entire research to ensure that all work done is trustworthy and ethical manner. Before all interviews and written artifacts were collected, participants (teachers) completed any necessary documentation gaining the researcher's permission to interact with each of them, and all IRB procedures have been dutifully followed before any data collection was allowed to take place. Also, all adult participants (two physical education teachers interviewed) were given a pseudonym allowing for their identity to remain confidential; this pseudonym has been utilized for all presentation of results and discussion. Students' names were only presented using first name and first initial of their last name only; no individual students' names or data was used in any results or discussion.

"Member checks" (Rossman & Rallis, 2017) were used during the interview process to allow for the participants to check the accuracy of their interview data. This has been done to make sure that all answers and perceptions are accurate, true, and reflect their actual thoughts and feelings. By doing this, it also allowed for the study to remain credible. As stated earlier, all interviews were audio recorded by reliable equipment to make sure all data is accurate. The researcher then double-checked all transcribed interviews to ensure that all of the audio is accurately depicted into the correct text. A content expert was asked to read all open coded data and assertions to serve as a "critical friend" and ensure accuracy of the analysis process for qualitative data (Rossman & Rallis, 2017).

The researcher was also able to continue to increase the credibility of the research by the keeping of a research log (Rossman & Rallis, 2017). In this log, the researcher reflects on their own personal experiences throughout all of the interviews, assessment time, and data analysis process. By doing this, it served as a check to ensure that the researcher's personal thoughts and

bias were not impacting the study (Hopple, 2015). All documents and data has been stored in a locked drawer within the researcher's office.

Summary

This study's primary data source is quantitative data from fifth grade students in order to determine the percentage of fifth grade students who were able to complete the fifth rung of the Ladders to Success skill progressions for the desired fundamental motor skills of kicking, throwing, jumping, and striking with a paddle. The secondary method for collecting data consists of interviews conducted with elementary physical education teachers. Analysis of the data has involved the transcription and coding of qualitative data, as well as the basic statistics of quantitative data. Taken together, the data has allowed for research questions one through four to be answered by the conclusion of this study.

Chapter Four: Results and Discussion

The overall purpose of this study was to assess select fifth-grade students' abilities to perform the fundamental motor skills of overhand throwing, jumping rope, striking with a paddle, and kicking using the "Ladders to Success" tool, and to determine teachers' perceptions regarding the use of the Ladders as a tool for programmatic assessment. The following three main questions guided this inquiry:

1. What percentage of fifth grade students are able to successfully perform the motor tasks specified in rung five for each of the "Ladders to Success" skills progressions for the fundamental motor skills of throwing, catching, jumping rope, and striking with a paddle?
2. What difference, if any, exists between the number of male and female students who are able to successfully meet the tasks for rung five of the designated skills progressions?
3. What are teachers' perceptions surrounding the use of the ladders and of their students' performance relative to the fundamental movements of throwing, catching, jumping rope, and striking with a paddle?

The following sections will outline the methods be used to answer these questions. This information includes the study's setting, adult and student participants, design, the selection of participants, potential bias, location, data collection, data analysis, genre, trustworthiness, and potential issues.

Quantitative Data

The ability to collect and process quantitative data in any study provides information the researcher can use to answer their research questions. In a mixed-methods design, it is important that the quantitative data collected during the study complements the qualitative data. This will

allow for both data to hopefully provide their unique perspective in order to arrive at results. Quantitative data can either support the questions being asked, or possibly, provide a different perspective. The use of both data sets can support the research questions and assumptions being made by the researcher or it can open the eyes of the researcher and provide unexpected findings.

In this study, the researcher collected quantitative data on four different motor skills which student participants performed during the data collection period. Data that was collected was assigned a numerical value for the four different skills of throwing, kicking, striking with a racket, and jumping rope. If a student was able to successfully complete the given fundamental movement skill, they were given a "1" and if they were not successful, they were given a "0." By collecting data points in this fashion, it was easier for the researcher to break down, analyze, and report the data into nine precise categories.

The researcher broke down each skill assessed according to nine different data points. Within this section below are the different fundamental motor skills broken down into tables. Tables 1 – 4 provide the nine different data points for each of the four assessment skills. For each skill, the researcher identified the number of boys, girls, and non-binary participants who participated in the skill assessment. Then, the next figure represents the total number of participants who met the skill requirements for rung five (the rung of interest). The next data points provided are the percent of total participants who met rung five. Along with those statistics, the researcher broke the data down by the total number of boys and girls who met rung five as well as the percentage. Since there were not any non-binary participants for any of the four skills, the researcher did not include the total or percent of non-binary participants who met rung five since this information would be zero for all data columns.

Throwing

Results for the skill of overhand throwing are provided in Table 1. The Table shows how the 23 students at School A performed during the throwing phrase of the quantitative data collection. At this point of the data collection, the researcher had 15 boys and eight girls who participated and completed the fundamental motor skill of throwing a ball.

A total of 14 students (60.87%) were able to meet rung five of throwing a ball in the air for 50 feet before the ball hit the ground. Thirteen of these students were boys (i.e., 86.67%); only one girl (12.5%) was able to reach rung five.

In summary, when analyzing the throwing data information, it is apparent that the boys who participated in this study were more successful than the girls in being able to throw the ball 50 feet in the air. The boys showed a strong percentage of success with an 86.67% success rate while the girls had a 12.50% success rate. The fundamental motor skill of throwing showed the largest discrepancy in the success rate between boys and girls who were able to reach rung five.

Table 1

School A Students Results for Throwing

Throwing

Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	14
Percent Meeting Rung 5:	60.87%
Total Boys Meeting Rung 5:	13
Percent Boys Meeting rung 5:	86.67%
Total Girls Meeting Rung 5:	1
Percent Girls Meeting Rung 5:	12.50%

Kicking

During the kicking phrase of the data collection period, there were the same 23 students that participated in the throwing assessment time. Table 2 shows the results of skill of kicking a ball that were collected from the 23 students at School A. Table 2 provides a visual showing the breakdown of the quantitative data of the 15 boys and eight girls who participated in the throwing part of the assessment as this was one of the key fundamental motor skills.

There was a total of 22 students (96.65%) out of 23 that were meet rung five of being able to kick a ball for a distance of 60 feet. There were fourteen boys (i.e., 93.33%) and all eight girls (100.00%) were able to reach rung five for kicking.

In summary, when analyzing the data for the fundamental motor skill of kicking a ball and using the Ladders to Success assessment tool almost all of the participants were success. Every participant beside one boy student was success. The success rate between both boys and girls only had a 6.67 percent difference. With the participants who partake in the study, the data shows that the girls were more successful in kicking a ball 60 feet.

Table 2

School A Students Results for Kicking

Kicking	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	22
Percent Meeting Rung 5:	95.65%
Total Boys Meeting Rung 5:	14
Percent Boys Meeting rung 5:	93.33%
Total Girls Meeting Rung 5:	8
Percent Girls Meeting Rung 5:	100.00%

Striking

The third phrase of the data collection process was looking to see if the participants could achieve the fifth rung on the striking with a long-handled implement ladder. Table 3 shows the computed results that the researcher collected from the 23 students at School A. In Table 3, one can see the breakdown of the quantitative data that is presented showing 15 boys and eight girls who participated in the striking with a long-handled implement data collection stage.

There was a total of three students (13.04%) out of the 23 participants that were able to meet rung five for being able to strike a ball upward continuously while alternating both sides of the racket six time in a row while standing inside a hoop. All three of the participants that were successful in completing this skill were all boys. With that said, three out of fifteen boys (20.00%) were successful, and zero girls (0.00%) were successful in reaching rung five.

Looking at the analyzed data in Table 3, the data for the fundamental motor skill of striking with a long-handled implement shows that there only a few participants that were successful. Contrary to the kicking data, the striking with a long-handled implement there was a very low success rate with an overall success rate of 13.04 percent. Based on the students who participated in the study, boys were more successful than girls in striking with a long-handled implement.

Table 3

School A Students Results for Striking

Striking	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	3
Percent Meeting Rung 5:	13.04%
Total Boys Meeting Rung 5:	3
Percent Boys Meeting rung 5:	20.00%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

Jumping Rope

In the fourth and final phrase of the data collection process the researcher collected data on the student's ability of jumping a self-turned rope for 30 seconds without a miss. Table 4 shows all of the computed data that the researcher collected from all of the 23 students that were at School A. Again, the data that is presented shows 15 boys and eight girls who participated in jumping a self-turned rope for 30 seconds without a miss.

There was only one out (4.35%) of the 23 participants that were able to meet rung five for being able to jump a self-turned rope for 30 seconds without a miss. With the only one participant being a boy who was successful, that would mean that one (6.67%) out of 15 boys were successful. Combined with the zero girls (0.00%) participants that were successful, this has led to the lowest overall success rate out of the four different fundamental motor skills.

In summary, when looking at the analyzed data for the fundamental motor skill of jumping rope for the fifth rung for the Ladders to Success assessment tool there was the lowest overall success rate. The skill of jumping a self-turned rope for 30 seconds without a miss was a tough task for many students and the data shows that.

Table 4

School A Students Results for Jumping Rope

Jumping Rope

Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	1
Percent Meeting Rung 5:	4.35%
Total Boys Meeting Rung 5:	1
Percent Boys Meeting rung 5:	6.67%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

Qualitative Data

When combined with the quantitative data, the addition of qualitative data from semi-structured interviews with the teachers would strengthen the study's design and provide additional insights to assist in answering the research questions. In terms of the study's timeline, the quantitative data was collected first; the researcher was then able to use the computed results during interviews which assisted in the triangulation of data. The use of the quantitative results during the interviews allowed for a robust discussion by teachers as to what their students could and could not do in terms of the skill performances. By having that information, the teachers were able to provide the most accurate answers possible, which enhanced the trustworthiness of the study. Incorporating interview data also allowed the researcher to find commonalities between the interviewees.

After reviewing and analyzing the data from the transcribed interviews two main assertions have surfaced.

1. Teachers believe that their students' daily physical activity rates have drastically decreased, leading to a negative impact on their level of fundamental motor skills and their ability to be "physically literate."
2. While the Ladders to Success progressions have potential for teachers' use, there are a number of constraints which may preclude their ability to be used regularly in physical education classes.

Each of the above assertations have been developed by what has been observed and found through the research process and are heavily connected to the real world of the elementary physical education class. To be able to truly describe the overall picture that the research is trying to paint, each of the two assertations are presented and described below. Specific data has

been taken from the interviews conducted with the two physical education teachers and are used to support each of the assertations.

Assertation One: Teachers believe that their students' daily physical activity rates have drastically decreased, leading to a negative impact on their levels of fundamental motor skills and their ability to be "physically literate."

The physical education teachers, Erica and Todd believe that the rate of physical activity which their students have been involved in has decreased over the years, which in turn has impacted their students' abilities to complete basic fundamental movements skills as well as to become a "physically literate" individual. They based this upon their observations of their students' skills over the years, as well as interacting with students each and everyday assisting them as they perform skills. They also provided possible reasons as to the leading factors which may be negatively impacting the physical activity rates and fundamental motor skill level of their students. Through all of the data, there were four main factors which were heavily discussed. These include the lack of play, family involvement, COVID-19, and community involvement. Before diving into each of the four main factors, it is important to understand where the teachers stand on their students' physical literacy levels.

Physical literacy is defined as "the ability to move with competency and confidence in a variety of physical activities in multiple environments that benefit the healthy development of the whole person, based on personal experience and opinion" (SHAPE America, 2019). Certainly, the ability to perform fundamental movement skills is basic to one's ability to being "physically literate." After providing this information to the both teachers, they were asked to estimate the percentage of their fifth grade students who would be "physically literate." Erica said the following:

> "I don't… I don't know. I mean, 40% might be that correct … I just think we have a population of kids that don't have a ton of knowledge about why it's important to be fit and aren't exposed to a lot of activity. So, I don't know that they could, like if they were asked to do things independently without guidance from others. I don't know. Maybe it is closer to 60%" (Int2, 1074 -1080).

Physical literacy is a wide-ranging topic that this research is trying to encompass to cover many different angles. While the teacher shares her thoughts on physical literacy and where her students are at this point of their life, there are also a few other reasons as to why the teachers feel that the fundamental motor skills are decreasing. The first is that of involvement from the family.

Family Involvement

As mentioned above, there were many factors that the teachers felt that played a role in why the physical activity rates and fundamental motor skills have decreased. Both physical education teachers felt that family involvement was a leading factor that could positively or negatively impact physical activity rates and fundamental motor skills. While family involvement is the main focus, there are a handful of other subtopics that are included in a family's life, such as money or lack of family support, that also contribute to the overall idea of family involvement. Each physical education teacher shared their thoughts on what students are doing outside of school and how the family side of a student's life is impacting their fundamental motor skills. While discussing such topics with the physical education teachers, Todd stated:

> "I think it's exposure at young age to different types of whether it be outside sports teams. I kind of come back to family values, where their family values on physical activity, and is that something that they make time for. I think even more importantly is

> that as are our parents, are kids seeing their parents being physically active, physically healthy, when kids are young at this age" (Int1, 216 - 223).

As a part of Todd's statement, he also stated the following:

> "…I think that's the more the more I hear, I realized that it comes back to home life and sometimes as a teacher there's nothing you can really … sometimes that the home life is always going to make that blockade of why we're maybe seeing this trend that obesity and kids are being physically illiterate and kids aren't having the skills and tools to be able to do different activities" (Int1, 245 - 253).

While Todd shares his thoughts and expresses his concerns about the lack of family and parent involvement as it is negatively impacting physical activity rates and fundamental motor skills, Erica, the physical education teacher who the researcher interviewed shared her thoughts as well. Erica said:

> "Family involvement, exposure to things outside of school, you know, individual drive to want, having some natural ability, and they're in situations where they're allowed to use that ability. I think, in this high poverty area, it's I think a lot of kids are just not given the exposure to things. You know, we do what we can to offer our sunrise fitness so that everybody has the option to do that. So, we do have a decent amount of kids that do that. But I think that the families that are involved with prioritizing, health and wellness, those are going to be the kids are able to do these things because they do them on a regular basis" (Int2, 1379 - 1390).

To add more support to her statement, Erica added:

> "Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did.

> You know, back in the day, I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible. I think that's a factor. I think, safety in general, parents are a little bit more concerned about safety, so they're not as likely to let kids go out and play. There's a lot of factors that contribute" (Int2, 1004 - 1017).

Both physical education teachers shared their thoughts as to why family involvement has had an overall negative impact on physical activity rates and fundamental motor skills. There are many similarities that both physical education teacher spoke upon that relates directly back to lack of family involvement, or the lack of priority that creates challenges against student's developing efficient fundamental motor skills. As briefly touched on, the lack of play aspect was another heavily talked about topic that plays a role in the decrease of fundamental motor skills.

Lack of Play

For a variety of reasons, the general population is seeing a decrease in play across the board, especially in our youth. Both physical education teachers expressed their opinions, which they formed through their own observations, as to why there is a lack of play in the younger generation. All four main categories of family involvement, lack of play, COVID-19, and community involvement all intertwine closely together allowing for overlap. In terms of lack of play, both teachers suggested that COVID-19, money, decline in outside sports, recess, increased technology, having a wide variety of exposure to different activities, and individual drive are just a few reasons that could contribute to why they are seeing a lack of play.

Both physical education teachers shared their thoughts on why the lack of play aspect was such a critical role in the decrease in fundamental motor skills. During the time of discussing the topic of lack of play, Todd stated:

> "A lot of students just have a very, very hard time of doing those skills. Skills that typically kids come in, even if they don't necessarily play sports and things outside of school or organized sports, they could typically do fairly well. And I think we're just seeing that lack of play. Kids aren't going out and playing anymore and playing outside and playing a pickup basketball game or, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just playing into more of a technological age, post COVID, which I think that that's definitely contributing to that problem that we're seeing here" (Int1, 171 - 184).

Through the interview, Todd continued to touch on the idea that students are not playing:

> "…I think that a lot of that again, and what kids do outside you know, are you playing with your friends outside doing activities or are you not playing with your friends, but you're seeing them on the computer playing different types of you know, these online games" (Int1, 227 - 231).

To continue supporting his argument Todd said "… It's, you know, kids aren't just playing those pickup games anymore. And, I think, it comes back to that, and I think it really all comes back to what's valued in the home" (Int1, 242 - 245). Todd covers many different reasons as to why he thinks students are not playing as much as students have done in the past.

Todd and Erica had similar thoughts as to why students are not playing. To support and add to Todd's case, Erica stated many of the same thoughts that have already been shared by

Todd when she said; "Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did" (Int2, 1004 - 1007). Erica also said that:

> "… Like I said, kids don't play they don't come to school with the basic skills they're having to be taught and when it's limited time throughout their whole K-12 experience you can only do so much in that amount of time" (Int2, 1334 - 1337).

While Todd provides a few more reasons as to why he thinks students aren't playing as much, Erica uses her personal observations to make this claim. Erica also reflects on the lack of opportunities and the increased use of technology. Both Todd and Erica spoke about how students are not coming into school with the same prerequisite skills that in years past students might have. They both point to the lack of outside play and limited recess time to be contributors to this. Lastly, while the topic of lack of play was discussed, COVID-19 was also tied into the overall idea as to why there is to be a believed decreased level of fundamental motor skills.

COVID-19

In the past few years COVID-19 has been at the forefront of many of the decisions that have been made that have ultimately impacted many of the ways everyone lives their life. Both physical education teachers shared their opinion on how COVID-19 impacted the population and especially children in regard to physical activity and their development of fundamental motor skills. Todd and Erica both felt that COVID-19 was one of the more recent factors for why they are seeing a decrease in their student's fundamental motor skills level, in that it limited students opportunities to participate in physical activity in many ways. Whether COVID-19 limited the number of organized opportunities, or cut into physical education class time, many of the

COVID-19 limitations could directly or indirectly negatively impact the student's abilities to practice and perform their fundamental motor skills during a crucial time of human development.

As Todd and Erica spoke about the overall decrease in fundamental motor skills, COVID-19 was touched on. While speaking with Todd, he said the following:

> "…We definitely, we're seeing a decline I wish we had data like this the tests, you know, five, six, seven years ago, or even, you know, pre COVID to now. To have something to compare to, because I just think that we're definitely seeing a drastic transition of kids that are less physically active, less physically literate" (Int1, 844 - 850).

During this statement by Todd, he continued to touch on how COVID-19 has impacted the students he is interacting with. When Todd was asked the question;

> **"**We hear in society about an obesity crisis with kids and many believe that kids today don't have the prerequisite motor skills to lead to physically active and enjoyable lives. Along with that, they don't, or they won't have the skills to stay physically active throughout their lifetime. Would you agree with that opinion? For kids overall in society today?" (Int1, 129 - 135).

When asked this question, Todd stated:

> "I think …, if you were to ask me this five years ago, six, seven years ago, I would have said maybe, but I think over the past two or so years, I would definitely agree with that statement, and I think we're definitely seeing a transition, whether it be post COVID. Whether it be the increase in technology, but I think that we're definitely seeing that lack of in the prerequisite motor skills and maybe just this the ability and knowledge to live healthy, healthier lives, active lives" (Int1, 137 - 145).

In this statement here, Todd was able to give a big picture of summary that COVID-19 is contributing to the lack of prerequisite fundamental motor skills. As already briefly touched upon, the COVID-19 virus may have led to many challenges within the community and communities around the country. Just like COVID-19, the idea of community involvement has been a factor that both physical education teachers feel has impacted the development of fundamental motor skills.

Community Involvement

There is phrase that is often times used saying "it takes a village to raise a child." Community involvement plays a large role in many children's lives. Whether it is recreation programs, dance class, boy or girl scouts, organized sports, or any other community-based program that a child could take part in. Often times, there are other people speaking into a child's life that isn't that child's direct family. For example, friends, teachers, coaches, other community members, and even social media are just a few examples of people who could be impacting a child's life. Again, there are many reasons that a child may or may not be involved in community organizations. Both physical education teachers agreed that that community involvement dynamic has changed over the years. COVID-19, lack of opportunities, families not prioritizing, and lack of overall interest are just a few of the reasons that Todd and Erica believe that the community involvement is playing a role in their interpretation of the decrease of fundamental motor skills. There are many different avenues that community involvement covers.

For this specific school and physical education teachers, the community is utilized and talked about with the students whether in the physical education setting or in the classroom. Todd speaks about what type of community programs are accessible and shares this information

with students, but he is not quite sure whether or not students are participating in them. Todd also said the following:

> "So positively, we will post any type of outside sports clinic that we get for whatever team it is in different types of organizations. Whether it be football, wrestling, lacrosse, baseball, the kind of basketball things that we see, we post. We make sure we announce to the kids, which I think kids get very interested in that. I think we're seeing, hopefully, you know, that's just pushing kids where maybe they can't find or they're not really sure where to get this information from. So hopefully our part and giving it to them in class, you know, Sweden Rec has great programs. They're one where the kids take advantage of" (Int1, 261 - 272).

Later on in the same quote, Todd shared what he thinks are some of the factors that the community could improve upon in order to strengthen the aspect of community involvement. For example, he expressed the following:

> "… I think a good thing that some communities do that I don't think we necessarily do here, is just doing some sort of outside summer camp. I want us to get like a daycare, good days camp where kids can come to the school and you can just set up you know, different games and kids play different games outside and there's nothing that is too much pressure where it's competitive. And you can do things like kickball, you can set up badminton inside. You can use the playground; you can sit up football where kids just can be kids can just do some sort of organized structured sports but it's not that competitiveness that I think maybe kids shy away from" (Int1, 273 - 284).

Todd speaks about how he feels many students shy away from opportunities due to the competition. He feels that there are not enough opportunities within the community where kids

can just play without worrying of having to perform to a certain level. If students could have opportunities to just play, this could possibly lead to more time for students to practice their fundamental motor skills without the pressure of doing it correctly every single time.

Another factor that Todd believes that limits that ability of students to get involved within community events is due to lack of being able to find such opportunities. Todd stated:

> "… I think the negative influence is just going to be again, a lot of it is maybe kids not knowing where to find it. I think sometimes going digital hurts because everything we have to do is putting us on the computer. So sometimes if a website's not super user friendly, or maybe they don't have access to internet in the home, which is a really big possibility, they can't get that information. And I do think that again, the big increase in technology is the fact that schools are putting so much more of an emphasis on kids being on computers and using technology is hurting" (Int1, 289 - 299).

Depending on the community, access to the internet, or having a website being user-friendly, these are just a few other reasons that Todd believes this limits a student's level of involvement. As a common trend in many of the conversational topics, the use of technology is tied into as an indirect limiting factor that is negatively impacting the development of fundamental motor skills.

While Erica discusses similar ideas, she also changes the perspective from the outside village community to the school-based community. Erica shares her thoughts on how the school community is limiting the amount of time students have to practice their fundamental motor skills. At one part of the interview, Erica stated the following:

> "Like as far as teachers not taking them out to for recess. I think that there's so much pressure academically on meeting you know, reaching certain minutes of academics that you don't see the longer recesses. You don't see the focus on getting up and moving. So, I

> think a lot of these kids, they come in and they have PE twice, maybe three times a week, and that might be the only activity that get in a day. If you have some teachers that really focus on getting kids up and moving and that's awesome. But not everybody does" (Int2, 1027 - 1036).

Erica spins her perspective as she foci on the school day hours instead of when the students are outside of school. She feels that there has been a shift on the classroom academics, which is limiting the amount of time students are able to get up and moving, which could be playing a role in the student's fundamental motor skills. Due to a lack of recess time, this could contribute to the lack of practice time for skills where now children are not ad confident in their skills, which could translate to them not feeling as comfortable in participating in organized sports as Todd was suggesting. There are many other underlying reasons and attributes that could impact the student's level of community involvement that may be more individualized depending on each and every student.

In addition to discovering why the two physical education teachers believe that their students' daily physical activity rates have drastically decreased, leading to a negative impact on their fundamental motor skills, it felt important to view the assessment process, different constraints, and the use of the Ladders to Success. The following assertation dives into the Ladder for Success progressions and constraints which may limit the ability to use such assessment tools in a physical education class.

Assertation Two: While the Ladders to Success progressions have potential for teachers' use, there are a number of environmental, equipment, instructional, and logistical constraints which may preclude their ability to be used regularly in physical education classes.

Through the interview process, Erica and Todd both agreed they would like to learn more about the Ladders to Success tools but did express some concerns about the ladder's progressions and the overall use of the tool for assessment purposes. Whether it is the Ladders to Success or any other type of formal or informal assessment, both Todd and Erica felt that there is always some type of constraint that may limit the ability of regular use of assessment in the physical education setting. They see these constraints as being related to the environment, type of equipment, the instruction aspect, or even the logistical side of planning how to effectively use the given assessment tool. While the focus is on the Ladders to Success assessment tool, both Todd and Erica discussed their thoughts on the overall assessment process.

Specific to the Ladders to Success, both teachers had similar feelings of concerns about what they saw as leading factors of limitation. Through all of the data, three main topics served as the main topics that led to this assertation. The three largest impacting factors on the Ladders to Success and the overall assessment process include, the given parameters, the progression of each ladder, and overcoming the constraints of the assessment tool. While all three of these main factors are important to dissect, it is critical that we understand the assessment process through the eyes of the two physical education teachers.

No matter whether it is the Ladders to Success or any other formal assessment tool, Todd and Erica both shared their thoughts on how the assessment process isn't the most ideal in a real live physical education setting. During the interview process, Todd stated a comment that encompasses a general idea of his thoughts on the use of assessments. Todd said:

> "I think we're always looking to try and find a good way to formally assess our students as long as it it's, it's feasible I think in a setting where you have maybe 20 kids and you're just doing one class that everything seems great, but when you have 50 kids in a class,

> you have 40 minutes, you know, limited on time. Limited on equipment. I think that that makes it tough" (Int1, 357 - 363).

While the teacher shares his broad ideas about assessing students, there are other reasons that may raise red flags for teachers whether they are using the Ladders to Success or not. Constraints are common areas that both Todd and Erica felt lead to problems for any assessment tool. In regard to the Ladders to Success, the two physical education teachers presented their worries regarding the progressions and the types of parameters that the students need to perform within.

Progressions

The Ladders to Success assessment tool gives specific progressions (which the tool calls rungs), for each individual skill. The Ladders to Success tool is linked to the current National Learning Standards for physical education. Each ladder has nine rungs or steps that give objective progressions that each student can strive towards reaching. Using the kicking ladder as an example, the first rung says, "student can kick a stationary ball without falling over." Working up the ladder, rung five says "kick a stationary ball a distance of 60 feet." The ninth, and top rung, says, "kick a ball through the air a distance of 60 feet."

Each ladder step or rung is ideally meant to be a rough target goal for each child at each grade level. With that idea in mind, the bottom rung of the ladder would be a target outcome for a first-grade student to achieve by the end of their first-grade school year. Having an assessment tool that is has well designed progressions could allow for physical education teachers to effectively use the tool across different lessons, units, or grades.

Both physical education teachers spoke about how the progressions within the Ladders t0 Success, or any assessment tool, are critical for the validity and reliability of the tool. In terms of the Ladders to Success tool, Todd shared that he wanted to learn more about the ladders and

what each rung contained. While Todd and Erica were both exposed to the Ladders to Success tool, they both wanted to learn more about the progression process as well as what the ladder's rung looked like above and below rung five that was being measured. While discussing the progression with Todd, he stated:

> "Start at the bottom of the of the ladder a little bit more and start with some easier skills and then work your way up to kind of see where, alright, this is where we're starting to lose kids. Whereas if we started at step one, okay, majority could do 1, 2, and 3 kind of working through it. Now we can see where the breakdown is a little bit more a little bit more meaningful because they've also had that right warm up period" (Int1, 699 - 706).

Following that statement, Todd also shared the following:

> "…starting kind of at the bottom and then almost trying to hit those steps and more of a sequence. So, then you can get to the point where right, well this is where we're breaking down the striking where we're alternating palm up, palm down, well, okay, so now we can kind of go from there. So, I don't think it's not worth having and collecting as long as that were, you know starting at the right level or even starting below where we think we should and then working to a level that's tougher" (Int1, 707 - 715).

With both of these statements from Todd, he is stating that it may be more appropriate to use the ladders as a layout where a teacher can take their class and have the students time to warm up and then let them perform rung one. If many of the students are success, continue moving up the ladders to see where this a fall off point in the skill performance. By doing this, it could possibly give the teachers a better idea of where their students are in regard to their skill instead of just picking a rung and seeing students can reach it. By utilizing the ladders in this

aspect of working your way up it instead of using the idea of each ladder rung is a grade level may allow for more practical use and reliable information for teachers.

Parameters

While finding and using proper and fundamentally sound progressions within the physical education setting and assessment tool, finding well developed parameters that teachers can follow is a key concept for success. Although the Ladders to Success give specific progressions for different skills, the teachers felt that each rung doesn't necessarily provide specific information or parameters, which could potentially result in the skewing of assessment data. For example, teachers questioned the possibility that if one school were to have students perform rung five for the kicking Ladder, one school might have their students kick a soccer ball on an open grass field while another school could have their students kick a playground ball on a gym floor with walls.

Erica speaks on this idea directly during her interview when she said:

> "But again, like we asked you before, parameter wise, like, I felt like we didn't have any. Like, does it have to be straight? Like what about the kids that kicked it off to the right or left we were in an enclosed space so would that have counted if we were outside?" (Int2, 1188 - 1192).

Hence, while the students are performing the same fundamental motor skill, the results may dramatically differ. Having more specific parameters with the Ladders to Success assessment tool could allow for more concrete evidence to determine if the students are physically literate and/or physically fit.

Todd and Erica both expressed that the use of more specific parameters at times could improve the overall integrity of the Ladders to Success tool. During the actual data collection

process, the idea of parameters, listing parameters, and giving teachers clear and precise guidelines to follow while using the Ladders to Success was a big topic of conversation. Both physical education teachers shared their thoughts on parameters during the interviews as well. As already stated in one of Erica's concerns about whether to be outside or in an enclosed area, she continued to share other thoughts and ideas about what parameters could be put in place.

In the following statement, Erica asks about exactly what the Ladders to Success is looking for. She said the following:

> "I mean, are you looking at the kids able to produce that much force to get it that far? Or are you looking at accuracy? Like, did the ball have to be on the ground? Like, I don't know, there's a lot" (Int2, 1203 - 1206).

Erica describes some of the issues she thinks can make the Ladders to Success a less liable assessment tool as she feels there is too much variation.

Erica also shared a thought about how the parameters Could be included with the Ladders to Success. Erica said "I think you have to build skills. So, I think you have to continue to add more to it. So maybe at a higher level, adding more parameters and having it more open as you are lower, you know" (Int2, 1254 - 1257). This is a possible approach that could be taken into consideration as a way to tweak the Ladders to Success assessment tool. Following that idea, each individual teacher could create their own parameters that fit within each ladder and rung but is also fitting for their students and physical education program. Parameters are often times a part of many different educational instruments that allow teachers to adjust as they need in order to best educate each student. While parameters are put in place to narrow the focus in on a specific task, teachers often have to battle against constraints that may alter the way they would like to instruct and assess their students.

Constraints

Regardless of the educational subject, teachers are allowing battles constraints when it comes to educating or assessing their students. In the physical education setting, teachers often times have to manipulate instructional strategies and assessment tools to best fit their needs and handle the constraints they are dealing with. Whether it is the use of a formal assessment, such as the Ladders to Success, or any other type of assessment tool, teachers are most likely to run into some time of limitation or constraint. Through the interview process, the two physical education teachers spoke about some of the possible constraints that they may encounter in their physical education setting. In general, some of the constraints during the assessment process may be environmental, equipment, instructional, and/or logistical. While sometimes it is ideal to have limitations on testing to create a more narrow and specific finding, many constraints make it challenging for teachers to effectively use such assessment tools.

One of the largest problems that Todd and Erica had with the Ladders to Success and many of the other formal assessment tools that are within the physical education community, is the ability to effectively use them in a large setting in a timely manner. Many schools are meeting the state or national standard for the required minutes of physical education that each student should be receiving. At School A, they are meeting the required time for the state, both Todd and Erica felt that there is some much to learn and do, yet such little time. They both would like their students to come into the physical education setting and get moving while working towards getting as many practice opportunities as possible. Relating to this prospective, Todd said:

> "One getting, seeing what the validity and reliability is over a period of time and then trying to find a way to realistically incorporate that into a school setting as opposed to a

> testing environment, which is kind of how we did it where, you know, a class can come in, hey, this is what we're doing today" (Int1, 784 - 789).

For this study, the Ladders to Success were used in a more testing environment instead of a more open, free moving physical education setting.

Adding to the limited time physical education teachers feel they have, during the quantitation data collection part of this research, the students who participated in the study did have limited time to practice and work on any fundamental motor skills like they would in a normal physical education class time. Through the interview process, Todd also said the following:

> "Yeah, I think so. I think we're always looking to try and find a good way to formally assess our students as long as it it's, it's feasible I think in a setting where you have maybe 20 kids and you're just doing one class that everything seems great, but when you have 50 kids in a class, you have 40 minutes, you know, limited on time. Limited on equipment. I think that that makes it tough" (Int1, 357 - 363).

While Todd expresses his concerns about time, Erica also spoke about her thoughts on having such limited time with students. In the interview, Erica said:

> "I mean, yes and no, because I think we already know. I mean, we know what our kids are able to do. I mean, yes, this breaks it down and gives us a nice number and we can see it on paper and that's great. It doesn't change the fact that we are limited by time limited by a lot of different things. I mean yes, I think it's helpful to see" (Int2, 1321 - 1326).

Timing is a large concern for these two physical education teachers as a constraint to them and their students. Each physical education teacher may find different constraints more challenging

to overcome than others. Whether it's time, equipment, environment, or anything else that could get in the way, these two felt that constraints are a problem within the assessment process.

Discussion of Results

The results from this study, both quantitative and qualitative, indicate that students are not performing the fundamental movement skills to the level or expectations that they are expected to. Such expectations have been set by the teachers, the SHAPE National Learning for Physical Education, New York State Physical Education Curriculum Guidance Document, and also by the main supporting educational textbook titled *Unpacking Physical Education Standards: Ladders to Success*. Based on the experience and exposure that the researcher has had with working with 5th grade students, the results were not completely unanticipated. While there are some of the results and data that were to be expected, there were also parts that surprised the researcher which allows for other areas of the story to be explored. The researcher was not surprised by what was said during the two teacher's interview. On the other hand, the researcher was surprised to see the low level of success rate for jumping rope and striking with a paddle.

One factor that may account for the lower-than-expected levels of fundamental movement skill proficiency may point to the decrease rates of physical activity in students. Erwin and Castelli (2008) state that teachers and parents have seen a decrease in the physical fitness and activity levels of our nation's youth. The level of overall fundamental movement skills and motor skill ability has decreased in children, aligning with what the two teachers within this study have also stated. There are many factors that may be impacting and resulting in such low levels of physical activity. One of the reasons that is congruent with the established literature as well as the two teachers is the idea of lack of physical activity time and/or play time.

The United States Department of Health and Human Services (USDHHS) has provided and formed public physical activity guidelines for children and adults. Children who are between the ages of six and 17 are recommended of participating in 60 minutes of more of moderate to vigorous physical activity each day. The physical education teachers felt that the allotted time for recess or playtime has decreased over the past years which may be impacting the students ceiling for growth.

Another interesting finding is that relative to the students' decreased levels of physical activity and unsuccessful attempts of performing fundamental movement skills corresponds to the amount of play time or recess that students are receiving throughout the day. Both physical education teachers felt that there had been a change within the school and state to make sure students are meeting specific benchmarks in the classroom which is limiting the amount of time that students are able to be active in the form of recess. Students and teachers have a very busy day from as soon as the doors open until students dismiss at the end of the day. Students are consistently engaged in activities throughout the day as classroom teachers are fighting for more time to meet all of the state requirements, benchmarks, and curriculum. According to the two physical education teachers, in previous years students had more time outside on the playground or recess field to be able to performance free moving and unstructured fundamental movement skills as they learn to control their body in space. Depending on the student and their situation, recess time and physical education class may be there only time throughout the week where they are getting an opportunity to perform physical activity and fundamental movement skills.

A third possible reason for the students to not be reaching the fifth rung on the Ladders to Success Assessment tool may be due to a combination of their family, community, and society. As the entire world is changing every single day, so are the opportunities for students to engage

in physical activity and perform fundamental movement skills. Both Physical Teachers felt that the family dynamic and priorities, community opportunities, and society had changed directions limiting how many opportunities children have to interact with physical activity. For example, families may not have the time or funding to get their child involved in activities. Also, simply, they may just not view the importance of physical activity as much as people have in the past. The size of families within the community are shrinking and the number of young children in a neighborhood wanting to participate with others in an open environment form of activity is much smaller.

Also, with smaller families means that there are less children available to play in community-based activities. Therefore, these community-based organizations may dissolve which means there are less opportunities for students to get involved in. With less opportunities, this means less exposure to different types of physical activity, fundamental movement skills, and sports. While all of these intertwine with each other, the general society and perception is changing. People and parents are able to hear news stories as it happens, and tragic events are consistently in our face which can make people feel worrisome about their own and their child's safety. The freedom for children to go outside and play and participate physical activity may becoming more limited by families as they are consistently worries about their child's safety.

Another possible influence that may be impacting the development of fundamental movement skills is the increased use of technology. Both physical education teachers felt that technology has played a large role in the amount of activity and practice time a student gets outside of the school day. With limited time in the day, and students getting the chance to make choices, they may choose to play video games or use technology rather than getting outside and getting active.

Along with the increase in technology, the two physical education teachers felt that there are a handful of reasons for why this may be occurring. They described some of the limiting factors that are impacting students. The list of limiting factors that may be impacting students' physical literacy include: COVID-19, family and community importance on physical activity, lack of opportunities, and a heavier emphasis on classroom curriculum.

During the interviews, Todd stated the following:

> "I think we're just seeing that lack of play. Kids aren't going out and playing anymore and playing outside and playing a pickup basketball game or, you know, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just turning into more of a technological age, you know, post COVID, which I think that's definitely contributing to that problem that we're seeing here" (Int1, 174 – 184).

To add more evidence from the interviews, Erica also stated the following:

> "I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible" (Int2, 1007 – 1014).

These factors seem to impact more than just the students, but the way that the school operates and how the physical education teachers can educate their students.

For younger students, but even high school aged students, the COVID-19 pandemic has been apart of the conversation as to a possible reason for the increased use of technology and

limited physical activity time. While the world was flipped upside down, and many activities and lifestyle choices were limited due to individual safety, this provided a time for students and individuals to possibly build unhealthy habits that may be hard to break as it relates to physical activity, technology, and the success rate of correctly performing fundamentally movement skills.

As all of these ideas and possible reasons as to physical activity levels and fundamental movement skills have decreased, another perspective that can be observed is the difference between boys' and girls' performance. In previous years and older generations may have the idea that boys will be more successful and perform fundamental movement skills at a higher level than girls. Studies such has Holdfelder and Schott (2016) looked at the difference between the performance level of differing genders. From this study and the data that was collected, the boys had a higher success rate for reaching rung five than the girls in skills such as throwing (boys: 86.67%, girls: 12.50%), striking (boys: 20.00%, girls: 0.00%), jumping rope (boys: 6.67%, girls: 0.00%). The girls had a higher success rate for reaching rung five for the skill of kicking (boys: 93.33%, girls: 100.00).

The finding would suggest that boys will be more successful in performing fundamental movement skills than girls. It is challenging to pinpoint as to why this may be the case, but a few of the possible reasons that have come out through this student and as well as by interviewing the two physical education teachers. One of the possible reasons is that society may subconsciously push boys to perform more physical activity and physical play than girls. If this is the case, then boys would be getting more opportunities and practice time to work on such skills. Also, thinking back to the community, there may be more opportunities for boys focused activities where they can play organized sports and games.

In summary, some of the results from this study were anticipated by the researcher while other results were not. This same effect of being surprised by the evidence and results of the study is something that happens in many studies. Regardless of the findings, the work and effort put forward by the 5th grade students and physical education teachers were valued and appreciated. Both physical education teachers participated at their highest level and provided their honest thoughts. This would suggest that what the two teachers said in their interview was true to what they thought and felt, thoughtful, and showed understanding of what it means to be a physical education teacher. The 5th grade students were cheerful and enthusiastic about being able to perform the fundamental movements skills. It is from these experiences and studies that we as a larger educational community can begin to develop a better understanding of the practical assessment of fifth grade students' while they perform fundamental motor skills.

Chapter Five: Conclusions, Implications, and Recommendations

The overall purpose of this study was to assess select fifth-grade students' abilities to perform the fundamental motor skills of overhand throwing, jumping rope, striking with a paddle, and kicking using the "Ladders to Success" tool, and to determine teachers' perceptions regarding the use of the Ladders as a tool for programmatic assessment. The following three main questions guided this inquiry:

1. What percentage of fifth grade students are able to successfully perform the motor tasks specified in rung five for each of the "Ladders to Success" skills progressions for the fundamental motor skills of throwing, catching, jumping rope, and striking with a paddle?
2. What difference, if any, exists between the number of male and female students who are able to successfully meet the tasks for rung five of the designated skills progressions?
3. What are teachers' perceptions surrounding the use of the ladders and of their students' performance relative to the fundamental movements of throwing, catching, jumping rope, and striking with a paddle?

This study looked to discover the abilities of select fifth grade students as they performed the specific fundamental motor skills that were selected. As a result of this assessment process, the success rate percentage of fifth grade student participants who were able to perform the specific motor skill tasks specified in rung five for each of the "Ladders to Success" skills progressions were determined. Along with the quantitatively driven success rate, the study emphasized differences between the number of male and female students who were successful in meeting rung five. As a complement to data obtained from student participants, the researcher gathered qualitative data through interviews from the adult participants, two physical education

teachers, in order to discover their perceptions of their students' abilities in the motor skills, and of the assessment tool itself. Their professional insight was useful as it intertwines with the students' performance data and visa-versa.

From all of these findings, certain conclusions, implications for students and teachers, and recommendations for future research can be drawn in order to continue to grow the professional education community. Concluding statements will be presented first followed by implications and recommendations related to these conclusions.

Conclusions

It is evident from this study's results that there is a wide range of physical abilities for 5th grade students in terms of performing fundamental motor skills and movement patterns, with many students lacking the ability to perform basic motor skills. In addition, the two physical education teachers have distinct thoughts regarding their students' results and the reasons for them. While there are differences in what and how they discuss specific topics, there are many similarities in thoughts they have about their students, community, and the physical activity rates of the children they interact with. The similarities between the students' performance and physical education teachers have led to common threads that are summarized by the following conclusions.

The first conclusion relates to the idea that the **youth who participated in this study do not appear, overall, to have the necessary fundamental motor skills and movement patterns needed to be successful in a variety of physical activities commonly found in childhood.** This conclusion can be supported by many researchers from the previous decades. For example, Barnett et al., (2016) and Brownson et al., (2005) expressed similar concerns regarding the idea that students do not have the necessary skills that they should have to successfully participate in

their physical education classes. More and more children are coming into school and entering new grade levels and buildings throughout their educational career and are finding themselves less proficient than the class of students before them. The overall gross motor skills of students are low as they are struggling to meet the National Standards for physical education (SHAPE) (SHAPE America, 2019), more specifically National Standard One, and in the case of this study, for the fifth rung off select "Ladders to Success." Between the evidence presented from the student data and the teacher interview data, it would suggest that students are not performing fundamental motor skills at the appropriate level for their age.

Secondly, **in agreement with the professional literature (Barnett et al., 2016; Dapp et al., 2021), boys performed with a higher success rate than the girls for three out of the four fundamental motor skills that were assessed.** The boys were more successful in throwing, striking, and jumping rope. The girls had a slightly higher success rate for kicking, which is slightly different than what the research suggests (Hernandez et al., 2013). Much of the research suggests that there are skills, such as striking and throwing, in which boys are most likely to have a higher success rate in performing a skill. On the flip side of that, there are skills, such as jumping rope, that girls often times are going to be overall more successful in performing than boys. Hardy et al. (2013) and Payne and Isaacs (2020) state that the historical assumption is that activities such as jumping rope is a "girls' activity" while other activities, like throwing and catching, are geared towards boys.

For the specific activity of kicking, the results may be different than what the review of literature suggests as kicking may not be viewed as a "girls' activity" (Hernandez et al., 2013). Looking at why the girls performed kicking at higher success rate, there may be possible explanations as they were more successful than the boys. Within this specific school setting and

community, girls' soccer is heavily emphasized throughout with girls starting to play at a very young age. The involvement of the community and the opportunities that have been presented to these students may be a possible explanation for why the girl participants performed better than the boy participants for this specific skill. The idea of community involvement, opportunity, and family emphasis may be a possible explanation for any of the skills and why either gender performed better than the other.

The evidence from this study would agree with the review of literature stating that more boys perform fundamental movement skills at a higher level than girls at the same age. For the skill of kicking and jumping rope, there was only at most a seven percent difference between the success rate for boys and girls. For the other two skills of striking and throwing, these skills provided a large discrepancy between the success rate with at least 20 percent or more between boys and girls. The data clearly represents the differences in performance between boys and girls.

Thirdly, both **physical education teachers expressed that they felt that the overall psychomotor ability of students has decreased over the years.** For example, they both stated that students are entering their building (4^{th} and 5^{th} grade) with limited psychomotor skill ability. At one part of the interview while discussing students physical education testing scores, Todd stated the following:

> "you kind of look at some of the scores where, you know, a couple years ago you would see the scores were definitely higher. They were more within that healthy range. And, you know, we're definitely seeing scores that are much lower and some kids can't even perform the test. And you know, when you're looking at some of the motor skills, things

> like throwing and catching and striking. A lot of students just have a very, very hard time of doing those skills" (Int1, 163 – 172).

The teachers are finding themselves having to teach lower levels of skills that are similar to what is found in many first, second, or third grade curricula. In addition, the two physical education teachers stated that students are struggling to meet their specific state as well as national benchmarks that students should be reaching by 5th grade.

Also, throughout the interview process with the two physical education teachers, they both have the perception that their student's physical literacy and fundamental movement patterns levels have declined over time. Along with that, both teachers felt that their current students have an overall lower level of skill compared to previous classes and grades. Through both interviews, the researcher gained a sense that the two physical education teachers are almost expecting students to come into their building with inadequate skills. During the interview with Todd, he stated "I want to say surprise, because the numbers low, but I want to say that I'm not surprised knowing the students and knowing kind of the landscape…" (Int1, 481 – 483). While Todd shares how he feels about the expectations that he has, Erica also gave a similar impression to the researcher about how they both have low expectations for their students. During Erica's interview, she stated "I mean, I guess that the numbers are a little lower than I expected them to be. I'm not surprised by it, but when you see it as a big picture" (Int2, 1330 – 1332). Through these two statements, as well as the rest of the interview, the researcher felt that the two physical education teachers have low expectations for the physical abilities of incoming students. Fewer and fewer students have been entering 5th grade with the ability to reach and perform the end of the year 4th grade benchmarks that have been given to them by the state and national guidelines.

Fourth, **the physical education assessment process (The Ladders to Success and other assessment tools) can provide challenges for teachers to effectively assess and use correctly.** The overall assessment process can be very time consuming for teachers to accurately do if they want to gain objective evidence for each and every student they have for each skill. Both physical education teachers felt that many of the nationally used assessment tools can't be easily used in the physical education setting. One interesting point that was brought up by one of the physical education teachers is the idea that teachers can assess students based on the grade benchmarks, but if students are not even close to that mark, and have not learned the skills, then the benchmarks basically become useless. While talking with Erica during the interview, she expressed that the information she is gaining from this study may not be as useful as other data that could have been collected. Erica said the following referring to the Ladders to Success assessment tool. She stated:

> "… I don't understand what information this is giving you when kids are coming in and doing this. Like seeing a progression? Like I'd be interested if this was like a pretest, they had time to practice, and you came in and did a post test. I would like to see that. This is hard. It's this level that you did the test and is difficult" (Int2, 1415 – 1420).

While it is nice to have specific benchmarks within an assessment tool, it may not be the most useful tool for all students. Teachers should be able to appropriately gauge each assessment and find the most appropriate assessment tool for their students.

Along with the use of the assessment tool for their students, the tools can be used to evaluate one's physical education program. Teachers may not be thinking deeply about what is going on within their program. It is important that the teachers are evaluating their program just as well as they should be evaluating their students. If a teacher is consistently checking and

assessing their lessons and programs, then they may start to find ways to improve the program which can translate to more student success. The assessment tools, including The Ladders to Success, can serve as a way for teachers to see if their program is meeting the national standards. Regardless, whether it an assessment tool is for the students, or for the evaluation process of a program, the teachers need to appropriately measure which assessment tool will be the best fit.

Through this research, it can be concluded that there are two ways that a teacher could integrate the Ladders to Success assessment tool into their curriculum and classes. The first way is to use it truly as it is meant to be used. Each rung represents the skill that students should be able to complete at the end of their given grade. The student can either perform the correctly and successfully or not and the teacher will be given an objective result. Another way that teachers can use this tool, especially if they are in a similar situation to the two physical education teachers in this study, is by using it as a guideline to measure student growth. By doing this, it will allow for teachers to adapt their curriculum in order to best match their teaching to the students' skill level. For example, if someone has a 5^{th} grade class and the teacher sees that students are performing skills at a much lower grade level, then they can use the Ladders to Success to adjust their curriculum and lessons. By adjusting, this will hopefully allow for students to learn the skills they need in a correct, progression-based order that will assist in the growth of fundamental motor skills. The Ladders to Success could be used as a progression tool that each individual student could use to continue to grow and reach new levels and rungs.

In summary, the results of this study show us that there is much more that goes into how students perform motor skills and fundamental movement patterns. The student's data of their success performing the specific fundamental motor skills is only a portion of the picture. With the use of the two interviews with the physical education teachers, it has allowed for a more in-

depth picture to be painted. The combination of all of the data and research allows for us to discover why students perform the way they do.

The results from this study gives us as educators some insight as to how we can better instruct our students to make sure they are as physically literate as possible. The results not only show exactly what the students excel in as well as the areas of growth, but also how other factors influence the growth of students. Having teachers and educators aware of the changes that are constantly happening will only allow for the field of physical education to continue to blossom. In addition, there may be future research that will give us insight into the field of physical education as we continue to look for ways to improve the educational experience for students. For this research, the more information and knowledge that we can gain about fundamental motor skills, fundamental movement patterns, physical literacy, and the assessment process will help determine what is developmentally appropriate and inappropriate. Therefore, some significant implications which results of this study may hold are discussed in following section.

Implications

Throughout the entire study, many different insights were found that only represent the 22 student participants and the two physical education teachers from School A. The primary purpose of this study was to assess 5th grade students' abilities to perform fundamental motor skills, the difference, if any, between boys and girls, and what the teachers' perceptions of their students' skills are. It is possible that these implications may already be familiar to teachers and educators that have a large amount of experience working with and assessing motor skills of children. As such, the following section will look to seek and present the implications which the results of this study may hold for teachers, educators, parents, and administrators. These three areas of implications relate to: 1) the declining levels of fundamental motor skills of children; 2)

teacher's negative perceptions of students' skill levels; and 3) assessment tools in physical education.

The Declining Levels of Fundamental Motor Skills of Children

Results from recent studies have shown an overall decrease in both the current levels of children's fundamental motor skills efficiency and their levels of daily physical activity. (Erwin & Castelli, 2008; Hastie, 2017) The results from this study can add to our understanding of why physical activity levels are low and why many children are struggling to successfully perform fundamental motor skills. If children do not have the proper and efficient fundamental motor skills, then they may fall short of reaching the ideal levels of physical activity and becoming physically literate. There are many possibilities that hold the largest implications for student's, teachers, and the overall community. These are discussed in more detail below.

Low Levels of Physical Activity

The first area of results pertaining to fundamental motor skills of children have shown a substantial decrease in a child's ability to perform skills. Results from this study showed that students are not finding great success in performing skills which may be linked to lower levels of physical activity. Therefore, this may suggest the reason as to why the level of success in achieving fundamental motor skills and movement patterns has decreased. These results can be shown by looking at the low levels of success rate for the four specific skills that were assessed through this research. More importantly, the decrease in physical activity and psychomotor ability of students can be observed through the two physical education teachers' interviews. Both teachers expressed their concerns for the lack of physical activity for students. Whether it is due to the lack of opportunities for students, the increase levels of technology, or from the change in

society due to the COVID-19 pandemic. There are many implications that the students and public will face due to these lower levels of physical activity.

One of the largest areas of concern comes for the overall health of the individual. It is known that regular participation in physical activity is one of the most viable ways by which an individual can look to improve their health (United States Department of Health and Human Services, 2018). Participating in the recommended amount of physical activity can aide in maintaining healthy fitness levels. Obesity rates for children and adolescents is currently 19.7 herein the United States. (Center for Disease Control and Prevention, 2020). It has been shown that if someone is not reaching the nationally recommended levels of physical activity, then they are more likely to experience negative health consequences. As more and more youth fall short of meeting the recommended levels of physical activity, the more people that are going to suffer from possible negative health effects that could be avoided.

The low physical activity levels can impact different things in our life and are directly linked to the low level of motor skills efficiency. If students are not learning and practicing the fundamental motor skills and movement patterns, then they may not be willing to participate in physical activity in an enjoyable way. When students do not have the skills they need, they are not participating in physical activity, and this has been shown to have a direct association to an increase rate of obesity (Brownson et al., 2005). When someone is lacking the knowledge and physical ability to perform given activities, there can be detrimental health effects. A sedentary lifestyle can lead to much more than obesity.

Looking at this implication far into the future, there are many negative possibilities that could happen that can end up affecting everyone around the nation. If the physical activity levels stay low, especially for this young generation, the entire nation could be impacted. The entire

population may start to see more and more health issues which impacts families, the workplace, and the community. The lack of physical activity and health concerns can become a vicious circle for a family. If mom and dad struggle to participate in physical activity, there children may not partake in physical activity and at a very young age they start think that physical activity is pointless. Then when they grow up and are not physically fit, then they may end up landing desirable jobs that require a specific level of fitness. If companies are hiring physically inadequate individuals, then their profits may lessen as people may have to take time off more often if they get sick. The individuals they are hiring may also not be able to get the job done as efficiently since the workers may need to work at a slower pace. When this small-scale example is blown up into a bigger economic picture, there are many ways this can be detrimental to the nation's economic market.

In summary, it is increasingly being found that the physical activity rates and fundamental motor skills in children has been decreasing over recent decades. The results from this study suggest that students need to gain more exposure to physical activity time in order to be able to practice the fundamental motor skills they are being taught in the physical education environment. By finding students more opportunities to practice skills, whether it is more recess time or presenting more communities-based opportunities for students, there are many ways that we can work towards increasing physical activity rates. Along with that, educators can work towards continuing to share the importance of physical activity and motor skills with families and children. By doing this, we can continue to make a positive impact on the student's lives and their physical activity rates. Certainly, the physical activity rates and the learning of fundamental motor skills does not fall purely on the students, but also on the teachers they are interacting

with. As such, the following section addresses the role that the teacher's perceptions of the students' skills has on students' learning ability.

Teacher's Negative Perceptions of Students' Skill Levels

Throughout the two interviews that were conducted during this research study, the researcher felt that the two physical education teachers had a negative perception for their student's physical ability. There are many different implications that can come from possibly having a negative attitude towards students in the educational setting. It is important to inspect why teachers may feel this way. Both Todd and Erica expressed specific concerns about their students and other constraints that they have experienced that may be impacting their perceptions.

One reason that teachers could have negative perceptions of student's skill is due to truly the lack of physical ability and fundamental motor skills. If students are struggling to successfully perform skills, this could be a reflection on the teacher's ability. Often times people and teachers will look at the student's ability as they come into the physical education setting and automatically subconsciously lower the bar for students in a negative way if they think the students are going to struggle. Teacher's may become very enthusiastic and optimistic if the student's come in and are able to meet the preconceived ideas that the teacher had before knowing the students. If a group of students comes in and the skill ability is lower than expected, then teachers may lose the energy to positively teach the students to the highest level possible that they can. They may not put in the same amount of effort and may be mentally clouded by the low level of fundamental motor skills from their students. Therefore, with all of that said, the teachers may need to look in the mirror and recognize that they are not teaching well, which is impacting the classroom and the environment that they are in control of. The researcher feels that

the two physical education teacher's that participated in this study are teaching at the highest level possible without having a negative perspective that clouds their vision of their students abilities.

Another possibility as to why teachers have negative perceptions about the students may possibly be due to the lack of support that the teachers receive from the school district and the community. Some school districts support the physical education department much more than others. The level of support that teachers are getting from the school, the entire district, other teachers, administrators, and the community heavily impacts how teachers operate. Having more support may allow for teachers to be willing to try new things to engage student learning which can translate to more positive perspectives from teachers. If a teacher is struggling to gain outside support, they may be just trying to get through the day without creating waves. This struggling teacher may not feel the approval of physical education within the school and community and could find themselves sharing a common perspective that physical education is not that important. This can lead to negative perceptions about their students and how they educate them. This teacher may end up becoming a "roll out the ball" physical education teacher since they don't feel any support and they think their students' skills are so low. They may feel that they can't change the students and their abilities without the desired support.

One other possibility that may be impacting the teacher's negative perception is due to the amount of time that they get to interact with their student's. The two physical education teachers at school A are only seeing the students two or three times per week, with each class being 40 minutes long. Thus, the students are receiving five lessons (200 minutes) of physical education every two-weeks. Is 200 minutes every two-weeks enough time for students to practice the given skills? Do the students need more time in the physical education setting since we know

many children are not going out and practicing these skills on their own? Obviously, there is some much more than can be discussed within just this idea, but the time the students get in the physical education setting could easily be impacting their level of performance.

Teacher's may have the perception that students need more time in the physical education setting to allow for more time to focus on tasks. With teachers dealing with only seeing the students two or three times a week, they may feel that it is purely not enough time for students to realistic improve upon their skills. If a teacher feels this way, then they may not put their best foot forward while working with students which could lead to a teacher's negative perceptive. Along with timing, the teachers may need to look at the curriculum and what skills are being prioritized starting in kindergarten all the way until they graduate. If a teacher does not agree with the curriculum and what is being prioritized, they may become less invested in the program, especially if they have no control in changing it.

In summary, there are some many different angles that may change the perceptions of the teachers, either positively or negatively. The physical education teacher's hold the keys for the students as they look to improve their physical activity levels, fundamental motor skills, and movement patterns. The teacher's perception of their student's skills can heavily influence the ceiling that is set for the students. Along with their perception and the effectiveness of the teachers comes the assessment process that can guide how teachers operate. The next section addresses the assessment tools that are used in the physical education setting.

Assessment Tools in Physical Education

The assessment process in the physical education setting is one of the ways in which physical educators are able to validate the importance physical education in schools. While the assessment process has been a part of the subject area, it has changed over time to better equipe

teachers to gain insight and information from their students. There are a handful of nationally used assessment tools for assessing motor skills such as the Test of Gross Motor Development (TGMD-3) (Ulrich, 2019) and PE Metrics (SHAPE America, 2013). The Ladders to Success assessment tool provides an opportunity for physical educators to assess students while having the National Learning Standards and benchmarks as the leading foundation for this assessment tool. Regardless of the assessment tool, each tool provides an opportunity for physical education teachers to have data that can be used in data driven instruction. If the assessment tool or process can be used in a positive and effective manner, then teachers will be able to create curriculum and lesson plans that allow for more useful time spent on impactful skills.

One of the implications that has been presented through the assessment process of this study, as well as discussed upon by both physical education teachers, is the idea that is it challenging to assess students. Teachers have discussed the problem of using assessment tools on a regular basis. Many teachers' find the time constraint that is put on them as a main barrier to objectively assess students with a formal assessment tool for each and every skill. Therefore, many teachers struggle to effectively assess students (Chepko et al., 2018). With all of that said, if teachers cannot assess students on skills, then what are they assessing students on? How are students being graded? This is one of the largest problems that physical education faces when it comes to showing evidence and validating the importance of physical education to administrators and states officials who may not view the importance of physical education as many of us do. By not assessing the students on a regular basis, then physical educators have no evidence that they can take to objectively support that fundamental motor skills and physical activity rates are either increasing or decreasing. For a teacher who doesn't use assessments in the physical education setting only has their own word to support their argument.

Following along with that, it is important to look at who is responsible for what the physical education teachers teach, and how well their students learn. Who is responsible for what skills are being assessed and what they assessment plan is for the school year? Who is telling the physical education teachers what to teach and who checking to make sure they are following the scope and sequence that has been set in place? There are many different people and resources that are responsible for leading teachers to effectively assess the students. The director of physical education within each school district should be one of the leaders that assist in the process of developing a fantastic curriculum for teachers to follow. Along with the administration and teachers, their specific state, and more importantly, the National Learning Standards and Benchmarks should be an important piece of the conversation.

Regardless of the assessment process, whether it is top of the line or very poor, there is a chain of reactions that happens and it can lead to specific implications for the assessment process. The assessment tools that are being used by teachers need to feel comfortable to them. More importantly, they need to effectively assess students and can be completed in a timely manner while also being accurate.

In summary, there continues to be an increasing call for creating and developing effective assessment tools and procedures for teachers as the physical education world is constantly changing and being challenged with new constraints. If we can continue to push the boundaries of how we can positively assess students, this will only allow for the enhancement of physical education. If we are able to continue to educate and assess students during their time in school, it will hopefully lead to higher rates of physical activity post-graduation and individuals who are able to perform a wide variety of motor skills in an effective way. Through these positive experiences, it is hopefully that the physical education setting will continue to gain value and

meaning in a child's life. This will lead to more and more children to decide to keep physical activity as a main staple within their life.

Recommendations for Future Research

Just like any other study, one is left with some very fascinating findings, other findings may be dull, and many other additional questions that you come across as you turn over each stone by moving throughout the research process. This study had plenty of new and exciting questions bloom over time. By talking with professionals in the field, students, and administrators, a number of interesting questions have been left unanswered. All of these questions desire future time and effort as we try to find answers for them. These questions are discussed below.

First, it is important that educators have an in-depth knowledge about fundamental motor skills as it relates to the development of elementary aged students. This will allow for an increase of physical literacy of students as they move through their educational career (Lundvall, 2015). It seems very important that future research should look at what fundamental motor skills are being taught and emphasized within schools. With the research that has been published, it seems that fundamental motor skills and movement patterns have been heavily taught to this day, but the amount of outside practice time from the students has decreased (Landry & Driscoll, 2012). There are new and exciting ways to introduce skills to children that are ever changing as teachers are finding new ways to engage students.

There are plenty of other directions that future research could go. One direction is to possibly look at is what can teachers realistically expect for students be able to physically perform at each grade level? Should the benchmarks and learning standards be adjusted on a more timely basis? Lastly, how can teachers and educators best assess students and have students

grow appropriately in terms of skill development? All of these questions present great opportunities for future research. By understanding these questions and topics more, perhaps us as educators will be better able to instruct students and increase the success rate of students performing fundamental motor skills and movement patterns. There has been little research done which explores these important questions and should be focused on for future research.

Second, an interesting point that has been a hot topic of discussion is exploring the difference between boys and girls and how they successful they are when performing fundamental motor skills. Through the data and interviews, there is definitely a discrepancy between how well boys and girls perform, not only for the four designated skills, but also when engaged in physical activity. The two physical education teachers discussed that boys are often time more interested in physical activity, taking risks, and pushing themselves to their edge while practicing fundamental motor skills. It would be interesting to see why boys are often times more physically literate than girls. Is the reason due purely to genetics? Is it due to the subconscious constraint's society may have? Do boys and girls have specific skills that they naturally are better at? For example, in this study specifically, the girls did better than the boys in the skill of kicking. Within the community the research was collected from, girls' youth and high school soccer is highly popular. Are the girls performing the skill of kicking better than the boys because maybe they have had more exposure or possible interest for the skill of kicking due to the popularity of soccer? It's may become very interesting to look deeper into why these differences occur. There are so many different avenues that one could take to find out more about these differences.

The third area which future researchers may be interested in looking into may include how the teacher's perceptions impact the student's learning environment. For example, even if

the students' abilities are lower than others, will an optimistic perception be better than a negative perception? It also seems important to look at the teacher's level and years of experience to see if their perception has changed due to time. This study topic could be performed in a longitudinal study if one was interested. Not only could one look at a teacher's perception, but also how knowledgeable and creative they are about the curriculum and skills. Does teachers who are more knowledgeable and creative lead to a different perception of the student's abilities since the teachers hold the keys to the driving focus of student learning in the physical education setting? It seems very important that all individuals who are involved, students and teachers, are evaluated to find the best ways to create positive and efficient learning environments.

Fourth area of future research might involve looking at the assessment process that teachers can use for their students. Whether it is finding or creating new assessment tool that may be more efficient or determining if teachers have the correct knowledge to effectively implement these assessment tools. Are there better ways to assess students? It would be very interesting to learn more about how the assessment process can be improved for teachers regardless of the subject area.

A fifth and final area of future research involves the Ladders to Success assessment tool that was used throughout this study. This study was an exploratory study to find out what percentage of fifth grade students are able to successfully perform the motor skill tasks that are specified in rung five for each of the designed ladders. In terms of the entire assessment tool, one question that educators may have is "how can this assessment be accurate from school to school?" Looking deeper in the specifics of each ladder and the assessment process, teachers may have many questions to ensure that the testing time is valid as they would like to make sure

the tasks are matching the National Learning Standards and Benchmarks. One area that may deserve future research is if additional parameters for each rung or skill need to be clarified? For example, should teachers be concerned about the surface they are using, student accuracy, the student's technique, or the environment the students are being tested in (gymnasium, turf, grass, indoors, outdoors)? More specifically, for a skill like kicking, does the ball need to roll 60 feet straight across the line or can it roll at a diagonal 60 feet without even crossing the 60 feet line marker set by the physical education teachers?

It may be interesting to see the results of the ladders and how students due when performing the skills if this study was done on a state or national level. Future researchers could take the Ladders to Success assessment tool and could take the results from other states and compare how well students perform. These are all valid questions that one can have about any assessment tool. If these questions are taken seriously and answered by the assessment creator, it will only enhance its effectiveness and the use from teachers all around the nation.

In summary, as more and more people start to realize the importance of physical activity for all areas of health, the more likely it is that the importance of having children learn the fundamental motor skills and motor patterns will be emphasized. Also, while the assessment process is becoming even more defined, it will become more and more apparent that children need to spend time practicing these skills to be able to successful participate in physical activity over the course of their lifetime.

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Appendix A: Scoring Rubric for Hopping (SHAPE America, 2019)

Hopping Grade 1

Grade-Level Outcome

Hops, gallops, jogs and slides using a mature pattern. (S1.E1.1)

Assessment Task

Explore hopping for critical elements of a mature pattern.

Guidelines

- Students perform locomotor movements in small groups as you observe for individual assessments.
- Observe for assessment during a warm-up activity, instant activity, Corner to Corner (Holt/Hale & Hall, 2016), or as a station.
- Focus on the identified critical elements and score students based on critical elements of the skill.
- Observe more than one time for the assessment; a single observation may not provide a true assessment of skill, especially for younger students.

Setup

- Students in scattered formation, with at least 3 square feet per student for hopping
- Sufficient general space for hopping, galloping, jogging, and sliding

Note: *Hopping is very tiring for young children. Keep the movement intervals brief for an accurate assessment.*

Critical Elements for Hopping

- Take off and land on same foot
- Use ankle and knee flexion to push upward and to absorb the shock upon landing
- Arms push up and down to lift and for balance
- Knee seldom straightens fully

Scoring Rubric for Hopping, Grade 1

INDICATOR	DEVELOPING	COMPETENT	PROFICIENT
Critical Elements Hopping	Demonstrates fewer than 4 of the critical elements for hopping	Demonstrates all critical elements when hopping on preferred foot: • Take off and land on same foot • Ankle and knee flexion to push upward and to absorb shock upon landing • Arms push up and down to lift and for balance • Knee seldom straightens fully	Demonstrates all critical elements for hopping on both preferred and nonpreferred foot
Rhythm and Continuity	• Erratic rhythm • Cannot maintain continuous hopping sequence (at least 5 consecutive hops)	• Steady rhythm • Maintains continuous hopping sequence (at least 5 consecutive hops) on preferred foot	• Steady rhythm • Maintains continuous hopping sequence (at least 5 consecutive hops) on both the preferred and nonpreferred foot

Appendix B: Sample Formative Assessment (SHAPE America, 2019)

Sample Formative Assessment: Peer Checklist for Tennis Forehand/Backhand

Name of performer: _____

Name of observer: _____

For each line on the checklist use one of the following codes:

A = The movement is absent or some of the criteria are executed poorly

P = The movement is present and meets all criteria

Checklist for Tennis Forehand

Performer Demonstrates:

- Ready position with shoulders facing net and weight on balls of feet ____
- Proper grip – handshake with "V" formed with thumb and forefinger (or alternate grip) ____
- Well-timed and smooth pivot and turn – preferred foot dropping back ____
- Shoulder sideways to net, racket back, step-turn with torque (or open stance) ____
- Ball contact well in front of lead foot ____
- Swing is through the ball, with low-to-high arc ____
- Follow-through with swing and return to ready position ____

Checklist for Tennis Backhand

Performer Demonstrates:

- Ready position with shoulders facing net and weight on balls of feet ____
- Proper grip with quarter turn (or alternative grip) ____
- Well-timed and smooth pivot turn, as preferred foot steps forward ____
- Shoulder sideways to net, racket back, step-turn with torque ____
- Ball contact in front of lead foot, swing through ball ____
- Swing through ball, with low-to-high arc ____
- Follow-through and return to ready position ____

Appendix C: Checklist for Basic Golf Swing Using a Short Iron (SHAPE America, 2019)

✍ *Checklist for Basic Golf Swing Using a Short Iron*

Name of performer: _____

For each line on the checklist use one of the following codes:

A = the movement is absent or some part of the criteria is poorly executed

P = the movement is present and meets all criteria

Pre-Assessment Checklist for Basic Golf Swing

- Weight balanced on both feet in stance ____
- Knee flexed ____
- Slow takeaway of club on backswing ____
- Weight shifts to front foot starting on downswing ____
- Swing through the ball with weight moving to front foot ____
- Follow through and finish high ____
- Weight on front foot in balanced position ____

Appendix D: Blank Data Collection Sheet

DATE:	**KEY:**	Total # of Students:
SCHOOL:	**0 = Did NOT meet Rung Assessed**	Total # of (Identified) Boys:
PE TEACHER:	**1 = Met Rung 4**	Total # of (Identified) Girls:
EVALUATOR(S): Coby Albone	**2 = Met Rung 4 AND Rung 9**	Total # of Non-Binary Ss:

			Fundamental Motor Skills Assessed			
Student's Name	School A or B	Preferred Gender	Throwing	Kicking	Striking	Jumping Rope

Appendix E: Pilot Study Data Collection Sheet

DATE: 12/13/22	**KEY:**	Total # of Students:	16
SCHOOL: Medina (Pilot)	**0 = Did NOT meet Rung Assessed**	Total # of (Identified) Boys:	9
PE TEACHER: Mrs. Young	**1 = Met Rung 4**	Total # of (Identified) Girls:	7
EVALUATOR(S): Coby Albone	**2 = Met Rung 4 AND Rung 9**	Total # of Non-Binary Ss:	0

			Fundamental Motor Skills Assessed			
Student's Name	School A or B	Preferred Gender	Throwing	Kicking	Striking	Jumping Rope
1	P	F	0	0	0	0
2	P	F	0	0	0	0
3	P	F	0	0	0	0
4	P	F	0	0	0	0
5	P	F	0	0	0	0
6	P	F	0	0	0	0
7	P	F	0	0	0	0
8	P	M	0	0	0	0
9	P	M	0	0	0	0
10	P	M	0	0	0	0
11	P	M	0	0	0	0
12	P	M	0	0	0	0
13	P	M	0	0	0	0
14	P	M	0	0	0	0
15	P	M	0	0	0	0
16	P	M	0	0	0	0

Appendix F: Pilot Study Data Collection Results

THROWING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	14
Percent Meeting Rung 5:	60.87%
Total Boys Meeting Rung 5:	13
Percent Boys Meeting Rung 5:	86.67%
Total Girls Meeting Rung 5:	1
Percent Girls Meeting Rung 5:	12.50%

KICKING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	22
Percent Meeting Rung 5:	95.65%
Total Boys Meeting Rung 5:	14
Percent Boys Meeting Rung 5:	93.33%
Total Girls Meeting Rung 5:	8
Percent Girls Meeting Rung 5:	100.00%

STRIKING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	3
Percent Meeting Rung 5:	13.04%
Total Boys Meeting Rung 5:	3
Percent Boys Meeting Rung 5:	20.00%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

JUMPING ROPE	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	1
Percent Meeting Rung 5:	4.35%
Total Boys Meeting Rung 5:	1
Percent Boys Meeting Rung 5:	6.67%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

Appendix G: Piloting Post-Data Collection Interview Questions & Script

Interview Script
Interviewee:
Date:
Time:
Location:

1. First off, thank you for taking the time to meet and talk with me. I greatly appreciated you helping me with my research.

2. Second, please know that nothing we discuss today will go further than this room. With that being said, do I have your permission and consent to record this interview?

3. **Professional Experience:**

    a. Jumping into the interview here, what position do you hold here at the school?

    b. What grade levels are you currently teaching?

    c. What grades levels have you taught throughout your career?

    d. How many years having you been teaching?

    e. How many years have you been teaching physical education at the upper elementary levels (4^{th}-5^{th})?

4. **Curricular Goals:**

    a. Can you give me an overview of the units/activities found in your K-5 curriculum?

    b. What would you say are the main goals of the P.E. program here that you have for your students, that you want them to accomplish when they leave your school?

    c. Who develops these goals?

    d. Did you get a chance to help develop these goals?

    e. Do you or the school use any specific documents or resources to aid in the development of these goals.

    f. Are there any other factors which influence these goals?

5. **Physical Literacy:**

    a. We hear in society about an "obesity crisis" with kids, and many believe that kids today don't have the prerequisite motor skills to lead physically active and enjoyable lives. Along with that, they don't or won't have the skills to stay physically activity throughout their lifetime.

        i. Do you agree with this opinion for kids overall in society, today?

        ii. What do you think is the reason for it?

        iii. What about here at your school?

        iv. If you had to guestimate the percentage of your students in 5th grade who are close to or currently fit this statement – that they don't have the skills they need to be physically active – what percentage would you say?

            1. Why do you say this?

    b. Within the National Learning Standards, individual physical literacy is a massive component that is taken into account. SHAPE America defines physical literacy as "the ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person" (SHAPE America, 2017). Based on your personal experience and opinion, what percentage of 5th grade students would you say are physically literate individuals?

    c. Why do you think (the percentage or number from question #iv) of students are meeting the expectations of being physically literate for their age?

    d. Why do you think (the percentage or number from question #iv) of students are not meeting the expectations of being physically literate for their age?

    e. What do kids do in the community outside of Physical Education that may influence this positively or negatively?

    f. (Ask question if participant has been teaching for over 20 years) Over your career in Physical Education have you seen the physical literacy level increase, decrease, stay the same, or change year to year?

6. **Assessing Students:**

    a. Do you currently assess your student's fundamental movement skills?

i. How do you assess your students and are there any specific tools or guides that you use?

ii. If so, what skills do you assess?

iii. How often you assess the student and collect data on them?

b. Just curious, have you ever heard of P.E. Metrics a formal tool that follows the National Learning Standards or PE?

i. Have you ever used it, or have you considered using it?

ii. Would you ever be interested in using the ladders to assess your students' skill levels, in the future (Why/not?)

7. <u>Assessing Fundamental Motor Skills:</u>

a. Coming back to the research, I will be using an resource that experts and teachers have developed to measure the motor skills of the 5th grade students. The tool is called the Ladders to Success. Within the document, there are 16 different motor skills that have ladders created for them. Each ladder has nine rungs or steps that give objective progressions that each student can strive towards reaching. Using the kicking ladder as an example, the first rung says, "student can kick a stationary ball without falling over." Working up the ladder, rung five says "kick a stationary ball a distance of 60 feet." The ninth, and top rung, says, "kick a ball through the air a distance of 60 feet." For my research, I will be collecting data on student's ability to kick, throw, strike with a short-handled implement, and jump rope. I would like to find out your thoughts about how well your students performed these skills.

8. <u>Teacher's Predictions for Kicking:</u>

a. After collecting the data, XXX of the students could kick a ball a distance of 60 feet.

i. What are your first thoughts on this?

ii. At what rung of the kicking ladder do you think that we would see roughly half of the students being successful?

b. How important of a goal do you think this is of kicking a ball for 60 feet? Why?

c. Looking into the future, what do you think could perhaps be done, either in or out of school, to your students reach or get close to rung five for kicking?

9. <u>Teacher's Predictions for Striking with a Racket:</u>

a. After collecting the data, XXX of the students could strike a ball upward continuously, alternating both sides of the racket, 6 times in a row while standing inside a hoop.
    i. What are your first thoughts on this?

    ii. At what rung of the striking ladder do you think that we would see roughly half of the students being successful?

b. How important of a goal do you think this is of striking a ball upward continuously, alternating both sides of the racket, 6 times in a row while standing inside a hoop? Why?

c. Looking into the future, what do you think could perhaps be done, either in or out of school, to your students reach or get close to rung five for striking with a racket?

10. <u>Teacher's Predictions on Jumping Rope:</u>

a. After collecting the data, XXX of the students could jump a self-turned rope for 30 seconds without a miss.

    i. What are your first thoughts on this?

    ii. At what rung of the jumping rope ladder do you think that we would see roughly half of the students being successful?

b. How important of a goal do you think this is jumping a self-turned rope for 30 seconds without a miss? Why?

c. Looking into the future, what do you think could perhaps be done, either in or out of school, to your students reach or get close to rung five for jumping rope?

11. <u>Teacher's Predictions for Throwing:</u>

a. After collecting the data, XXX of the students could throw a ball 50 feet in the air.

    i. What are your first thoughts on this?

ii. At what rung of the throwing ladder do you think that we would see roughly half of the students being successful?

b. How important of a goal do you think this is of throwing a ball 50 feet in the air? Why?

c. Looking into the future, what do you think could perhaps be done, either in or out of school, to your students reach or get close to rung five for throwing?

12. <u>How Will You Use This Information:</u>

a. Based on the data results presented, how would you use this information as a P.E. teacher?

b. Understanding the data may not be the most differentiating this time around, but if there was some variation in the numbers can you see yourself using this information in your curriculum or instruction?

c. Do you think this data is worth having and collecting, or do you think it is not very telling of the physical literacy levels of 5^{th} grade students?

13. **<u>Overall:</u>**

a. Was there anything about what you saw that surprised you?

b. If you have to guess, do you think most kids in the U.S. would have similar results to your students? (Why/Not?)

c. As a Physical Education teacher, do you think that there is a crisis in that kids today aren't acquiring fundamental motor skills?

d. Is there any other data you would like to know about your students, whether related to fundamental motor skills or any other area?

e. From this study, do you have any thoughts for future studies that you think would be interesting to see done?

14. <u>Finishing Up:</u>

a. For the children that are successful, what do you think are some of the characteristics they will all share?

b. Do you think you could guess or find any similarities between the children who were not as successful in the data collection process.

c. Last question, do you have any lingering thoughts that you would like to share regarding everything we have talked about?

d. Thank you very much for your time. I really appreciate meeting with me and letting me collect your thoughts. I look forward to seeing you here very soon to collect the data on the students.

Appendix H: Post-Data Collection Interview Questions & Script

Interview Script
Interviewee:
Date:
Time:
Location:

1. First off, thank you for taking the time to meet and talk with me. I greatly appreciated you helping me with my research.

2. Second, please know that nothing we discuss today will go further than this room. With that being said, do I have your permission and consent to record this interview?

3. **Professional Experience:**

    a. Jumping into the interview here, what position do you hold here at the school?

    b. What grade levels are you currently teaching?

    c. What grades levels have you taught throughout your career?

    d. How many years having you been teaching?

    e. How many years have you been teaching physical education at the upper elementary levels (4^{th}-5^{th})?

4. **Curricular Goals:**

    a. Can you give me an overview of the units/activities found in your K-5 curriculum?

    b. What would you say are the main goals of the P.E. program here that you have for your students, that you want them to accomplish when they leave your school?

    c. Who develops these goals?

    d. Did you get a chance to help develop these goals?

    e. Do you or the school use any specific documents or resources to aid in the development of these goals.

    f. Are there any other factors which influence these goals?

5. **Physical Literacy:**

    a. We hear in society about an "obesity crisis" with kids, and many believe that kids today don't have the prerequisite motor skills to lead physically active and enjoyable lives. Along with that, they don't or won't have the skills to stay physically activity throughout their lifetime.

        i. Do you agree with this opinion for kids overall in society, today?

        ii. What do you think is the reason for it?

        iii. If you had to guestimate the percentage of your students in 5th grade who are close to or currently fit this statement – that they don't have the skills they need to be physically active – what percentage would you say?

            1. Why do you say this?

    b. Within the National Learning Standards, individual physical literacy is a massive component that is taken into account. SHAPE America defines physical literacy as "the ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person" (SHAPE America, 2017). Based on your personal experience and opinion, what percentage of 5th grade students would you say are physically literate individuals?

    c. Why do you think (the percentage or number from question #iv) of students are meeting the expectations of being physically literate for their age?

    d. Why do you think (the percentage or number from question #iv) of students are not meeting the expectations of being physically literate for their age?

    e. What do kids do in the community outside of Physical Education that may influence this positively or negatively?

    f. (Ask question if participant has been teaching for over 20 years) Over your career in Physical Education have you seen the physical literacy level increase, decrease, stay the same, or change year to year?

6. **Assessing Students:**

    a. Do you currently assess your student's fundamental movement skills?

i. How do you assess your students and are there any specific tools or guides that you use?

ii. If so, what skills do you assess?

iii. How often you assess the student and collect data on them?

b. Just curious, have you ever heard of P.E. Metrics a formal tool that follows the National Learning Standards or PE?

i. Have you ever used it, or have you considered using it?

ii. Would you ever be interested in using the ladders to assess your students' skill levels, in the future (Why/not?)

7. <u>Assessing Fundamental Motor Skills:</u>

a. Coming back to the research, I used a resource that experts and teachers have developed to measure the motor skills of the 5th grade students. The tool is called the Ladders to Success. Within the document, there are 16 different motor skills that have ladders created for them. Each ladder has nine rungs or steps that give objective progressions that each student can strive towards reaching. Using the kicking ladder as an example, the first rung says, "student can kick a stationary ball without falling over." Working up the ladder, rung five says "kick a stationary ball a distance of 60 feet." The ninth, and top rung, says, "kick a ball through the air a distance of 60 feet." For my research, I collected data on student's ability to kick, throw, strike with a short-handled implement, and jump rope. I would like to find out your thoughts about how well your students performed these skills.

8. <u>Teacher's Predictions for Kicking:</u>

a. After collecting the data, XXX of the students could kick a ball a distance of 60 feet.

i. What are your first thoughts on this?

b. How important of a goal do you think this is of kicking a ball for 60 feet? Why?

c. Looking into the future, what do you think could perhaps be done, either in or out of school, to help your students reach or get close to rung five for kicking?

9. **Teacher's Predictions for Striking with a Racket:**

    a. After collecting the data, XXX of the students could strike a ball upward continuously, alternating both sides of the racket, 6 times in a row while standing inside a hoop.
        i. What are your first thoughts on this?

    b. How important of a goal do you think this is of striking a ball upward continuously, alternating both sides of the racket, 6 times in a row while standing inside a hoop? Why?

    c. Looking into the future, what do you think could perhaps be done, either in or out of school, to help your students reach or get close to rung five for striking with a racket?

10. **Teacher's Predictions on Jumping Rope:**

    a. After collecting the data, XXX of the students could jump a self-turned rope for 30 seconds without a miss.

        i. What are your first thoughts on this?

    b. How important of a goal do you think this is jumping a self-turned rope for 30 seconds without a miss? Why?

    c. Looking into the future, what do you think could perhaps be done, either in or out of school, to help your students reach or get close to rung five for jumping rope?

11. **Teacher's Predictions for Throwing:**

    a. After collecting the data, XXX of the students could throw a ball 50 feet in the air.

        i. What are your first thoughts on this?

    b. How important of a goal do you think this is of throwing a ball 50 feet in the air? Why?

    c. Looking into the future, what do you think could perhaps be done, either in or out of school, to help your students reach or get close to rung five for throwing?

12. <u>How Will You Use This Information:</u>

a. Based on the data results presented, how would you use this information as a P.E. teacher?

b. Understanding the data may not be the most differentiating this time around, but if there was some variation in the numbers can you see yourself using this information in your curriculum or instruction?

c. Do you think this data is worth having and collecting, or do you think it is not very telling of the physical literacy levels of 5th grade students?

13. **<u>Overall:</u>**

a. Was there anything about what you saw that surprised you?

b. If you have to guess, do you think most kids in the U.S. would have similar results to your students? (Why/Not?)

c. As a Physical Education teacher, do you think that there is a crisis in that kids today aren't acquiring fundamental motor skills?

d. Is there any other data you would like to know about your students, whether related to fundamental motor skills or any other area?

e. From this study, do you have any thoughts for future studies that you think would be interesting to see done?

14. <u>Finishing Up:</u>

e. For the children that are successful, what do you think are some of the characteristics they will all share?

f. Do you think you could guess or find any similarities between the children who were not as successful in the data collection process.

g. Last question, do you have any lingering thoughts that you would like to share regarding everything we have talked about?

h. Thank you very much for your time. I really appreciate meeting me and letting me collect your thoughts.

Appendix I: The 5 W's of Research Fact Sheet

FACT SHEET – for Research Study
The Practical Assessment of Fifth Grade Students' Fundamental Motor Skills
Mr. Coby Albone, SUNY BROCKPORT

What Will Occur?: Collection of data on the fundamental movement patterns and motor skills of 5th grade students in order to determine their level of physically literacy, as part of master's level research work at SUNY Brockport. Motor skill data will be gathered from 125 - 150 5th grade students and Physical Education teachers of these students will be interviewed one time after the motor skill data collection. All data will be anonymous, confidential, and all research will abide by Institutional Review Board standards.

Where Will Data Collection Happen?: All of the activities that will be performed by the students can be completed inside of their normal Physical Education instructional space. The interviews with the Physical Education teachers will be conducted at a location convenient for the teachers involved.

Who Will Collect Data?: Coby Albone, graduate student in the KSSPE Department at SUNY Brockport. Coby is an initially certified teacher in K-12 Physical Education and Health Education who undertook field placements during his undergraduate program. He has teaching experience through substitute teaching as well as at the college level as part of his graduate assistantship duties.

When Will the Data Collection Happen?: Data will be collected from both schools within a one - week time frame that is convenient for Physical Education teachers at the schools involved, preferably in March, 2023. Motor skill data will be collected during one Physical Education lesson per class.

Why is it Important?: It is important that youth develop their fundamental movement patterns and motor skills in order to have the tools to live active, healthy lives. There is concern that American youth do not have these requisite skill levels; results from this study will provide information for the field as a whole as well as the Physical Education programs at the schools involved that can be used for curricular decisions as they see fit.

Who To Contact for More Information:

Mr. Coby Albone
calbone@brockport.edu
Dr. Christine Hopple
chopple@brockport.edu
585.395.5075

Appendix J: School District Support Letter

Kinesiology, Sport Studies and Physical Education

Month Date, Year

School District
Street Address
City, State Zip Code

Dear (Administrator's Name):

My name is Coby Albone and I am a graduate student in the KSSPE Department at SUNY Brockport. While my bachelor's degree is in K-12 Physical Education and Health Education, my current master's program is Athletic Administration. I am currently conducting a research project as part of my master's degree thesis requirements. My research is being supervised by Dr. Christine Hopple, Associate Professor in Physical Education Teacher Education at SUNY Brockport. My thesis will be looking at grade 5 students' levels of fundamental movement patterns and motor skills. Due to the purpose and main objectives of my research, I am seeking the assistance of (NAME) School District in order to gain access to 5th grade students and Physical Education teachers within one of the 5th grade elementary schools.

The overall purpose of this study is for the researcher to learn about the overall fundamental skill level of 125 - 150 fifth-grade students and for four different fundamental movement skills. The assessments that the researcher will be using to assess these skills are included in the "Ladders to Success" assessment guide (Graham et al., 2023). The Ladders to Success has been created specifically so that teachers can obtain objective data on their students which reflects students' progress toward state and national Learning Standards in Physical Education. These ladders may just add the level of credibility to program around the United States showing the importance to others of the field of physical education.

Participants in this study would perform basic skills such as overhand throwing, kicking, jumping rope, and striking with a shorthanded implement. These activities are all activities and

skills that many if not most fifth-grade student will have performed over the course of their education career so far. These activities provide the same level of risk for injury as any other physical education class material would have. As the researcher, I will make participant's safety a number one priority. All skills have been selected and the presentation of task has been arranged to limit the amount of risk as participants partake in activities. Along with that, the skills and assessment benchmarks have been selected and written to follow the National Physical Education Learning Standards and Educational Outcomes.

Participants in this study would participate in the assessment activities during one of their allotted physical education class time slots during the month of January. The total time of data collection for a group of roughly 30 to 40 students would take roughly 35 to 40 minutes. The P.E. teacher will be present during the data collection time. I would like for all participants to be active during the data collection time. I understand if a member of the participating group is not able to partake due to medical reasons or other reasons given by the teachers. All data will remain completely anonymous. Personal information beyond first and last name from the participants will not be collected. Institutional Review Board permission will be received, and all guidelines will be followed.

Along with the fifth-grade students as the main participants in this study, I would also like to interview the Physical Education teacher of the fifth-grade students in order to gain their insights on the students' development and progress in the assessed skills. The interview would focus on the teachers prospective on how they think their students will perform as well as what activities they focus on in their curriculum. The interviews would take roughly 15 to 20 minutes and would be conducted once again after the main data collection happened.

I appreciate your consideration of request to the (NAME) School District to allow me to access so that I can collecting this performance data for my master's program thesis. If you have any questions about this study or would like to meet with me in order to learn more about my research project, you may contact me at the phone number or email address below. If you have further questions, you may also contact my thesis director, Dr. Christine Hopple at chopple@brockport.edu or 585-395-5075. I look forward to hearing from you at your earliest convenience.

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
(716)-525-2533
calbone@brockport.edu

Appendix K: School District Blanket Letter

Kinesiology, Sport Studies and Physical Education

Month Day, Year

Dear Parents/Guardians,

My name is Coby Albone and I am a graduate student in the KSSPE Department at SUNY Brockport. While my bachelor's degree is in K-12 Physical Education and Health Education, my current master's program is in Athletic Administration. In the Spring of 2021, I was fortunate enough to be able to do my student teaching at the (NAME) Elementary School and the (NAME) Middle School. Along with that, I am currently a substitute teacher here within the district throughout the buildings. At the present time, I am conducting a research project as part of my master's degree thesis requirements. I would like to inform each family to make them aware of what I will be doing.

First, my research is being supervised by Dr. Christine Hopple, Associate Professor in Physical Education Teacher Education at SUNY Brockport. My thesis will be looking at grade 5 students' levels of fundamental movement patterns and motor skills. Participants in this study would perform basic skills similar to dribbling and catching a ball, performing a plank, and jumping. These activities are all activities and skills that many if not most fifth-grade student will have performed over the course of their education career so far. These activities provide the same level of risk for injury as any other physical education class material would have.

Participants in this study would participate in the assessment activities during one of their allotted physical education class time slots during the month of February. The total time of data collection for a group of roughly 30 to 40 students would take roughly 35 to 40 minutes. The P.E. teacher will be present during the data collection time. I would like for all participants to be active during the data collection time. I understand if a member of the participating group is not able to partake due to medical reasons or other reasons given by the teachers. All data will remain completely anonymous; no names will be associated with any of the data in any way.

If you have any questions about this study or would like to learn more about my research project, you may contact me at the phone number or email address below. You may also contact the (NAME) Elementary School Principal, Mrs. Colby, for any questions or concerns. Lastly, if you have further questions, you may also contact my thesis director, Dr. Christine Hopple at chopple@brockport.edu or 585-395-5075.

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
calbone@brockport.edu

Appendix L: School District Approval Form

SUNY BROCKPORT

Kinesiology, Sport Studies and Physical Education

Researcher's Name: Coby Albone
Name of Thesis Research: The Practical Assessment of Fifth Grade Students' Fundamental Motor Skills
Name of School District: Brockport Central School District
Name of Desired School: Fred W. Hill Elementary School
Name of School Principal: Mrs. Tina Colby
Date of Data Collection: Spring 2023

The _____ School District gives permission to allow for Mr. Coby Albone to conduct research at the Fred W. Hill Elementary School. Mr. Albone will be allowed to collect data on the fundamental movement patterns and motor skills of 5th grade students.

Name of Site Supervisor: _____ Date: _____

Signature of Site Supervisor: _____ Date:_____

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
(716)-525-2533
calbone@brockport.edu

Appendix M: Completed School District Approval Form

SUNY BROCKPORT

Kinesiology, Sport Studies and Physical Education

School District Approval Form

Researcher's Name: Coby Albone
Name of Thesis Research: The Practical Assessment of Fifth Grade Students' Fundamental Motor Skills
Name of School District: Brockport Central School District
Name of Desired School: Fred W. Hill Elementary School
Name of School Principal: Mrs. Tina Colby
Date of Data Collection: Spring 2023

The Brockport School District gives permission to allow for Mr. Coby Albone to conduct research at the Fred W. Hill Elementary School. Mr. Albone will be allowed to collect data on the fundamental movement patterns and motor skills of 5th grade students.

Name of Site Supervisor: Tina Colby Date: 2-17-23

Signature of Site Supervisor: Tina Colby Date: 2-17-23

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
(716)-525-2533
calbone@brockport.edu

350 New Campus Drive ◎ Brockport, New York 14420-2989 • 585-395-5332 • Fax 585-395-2771 • www.brockport.edu

Appendix N: Physical Education Teacher Interview Consent Form

Kinesiology, Sport Studies and Physical Education

Consent Form

Interview Consent

I _____ give consent to allow for Coby Albone to conduct an interview with me regarding his thesis research. The topics of the interview will include; professional experience, curricular goals, physical literacy, assessing students, assessing fundamental motor skills, and teacher's prediction of skills.

Signature for consent:_____ Date:_____

Audio Taping Consent

I_____ give consent to allow for Coby Albone to audio record an interview with me regarding his thesis research.

Signature for consent: _____ Date: _____

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
(716)-525-2533
calbone@brockport.edu

Appendix O: Completed Physical Education Teacher Interview Consent Form

SUNY BROCKPORT

Kinesiology, Sport Studies and Physical Education

Consent Form – Physical Education Teachers

Interview Consent

I Erin Reed give consent to allow Coby Albone to conduct an interview with me regarding his thesis research. The topics of the interview will include; professional experience, curricular goals, physical literacy, assessing students, assessing fundamental motor skills, and teacher's prediction of skills.

Signature for consent: Erin K. Reed Date: 5/3/23

Audio Taping Consent

I Erin Reed give consent to allow for Coby Albone to audio record an interview with me regarding his thesis research.

Signature for consent: Erin K Reed Date: 5/3/23

Thank you for your consideration.

Sincerely,

Coby Albone

SUNY Brockport

(716)-525-2533

calbone@brockport.edu

SUNY
BROCKPORT

Kinesiology, Sport Studies and Physical Education

Consent Form – Physical Education Teachers

Interview Consent

I Thomas Rispoli give consent to allow Coby Albone to conduct an interview with me regarding his thesis research. The topics of the interview will include; professional experience, curricular goals, physical literacy, assessing students, assessing fundamental motor skills, and teacher's prediction of skills.

Signature for consent: Thomas Rispoli Date: 5/3/2023

Audio Taping Consent

I Thomas Rispoli give consent to allow for Coby Albone to audio record an interview with me regarding his thesis research.

Signature for consent: Thomas Rispoli Date: 5/3/2023

Thank you for your consideration.

Sincerely,

Coby Albone
SUNY Brockport
(716)-525-2533
calbone@brockport.edu

Appendix P: Parental Consent Form for Parents & Guardians

SUNY BROCKPORT

Kinesiology, Sport Studies and Physical Education

Dear Parents / Guardians,

My name is Mr. Albone and I am one of the High School Health Education teachers here in the Brockport Central School District. I am currently conducting a research project as part of my master's degree thesis requirements. The purpose of this letter is to give each family specific information regarding the project.

I will be assessing 5th grade students' levels of the movement skills of throwing, kicking, striking a tennis ball with a racket, and jumping rope – all activities which your 5th grader typically performs as part of their PE class. This will take place in one upcoming PE class. Class rolls, which provide each child's first and last name and gender, will be used as part of the data collection. However, **no individual student data of any kind will be reported** at the conclusion of this study.

I would most appreciate if you as a parent/guardian would give consent for your child to participate in these skill assessments. To do so, please check the first box below; alternatively, you may not give permission by checking the second box. If your child does not wish to participate, they will be allowed to opt out at the beginning of each skill assessment.

To be certain your wishes are respected, return this form to either Hill School Physical Education teacher, Mr. Rispoli or Mrs. Reed by **Wednesday April 12th, 2023**.

☐ **I DO give permission for my child to participate in the assessments next week in PE.**

☐ **I DO NOT GIVE permission for my child to participate in the assessments in PE.**

Student's Name:_____

Signature of Parent / Guardian:_____

Date:_____

Thank you for your consideration.
Sincerely,
Coby Albone
Health Education Teacher

Appendix Q: Institutional Review Board Approval Letter

The College at
BROCKPORT
State University of New York
Institutional Review Board

EXPEDITED

April 13, 2023

Coby Albone

Dear Coby Albone

On 4/13/2023, the IRB reviewed the following submission:

Type of Review:	Full Board Review
Title of Study:	The Practical Assessment of Fifth Grade Students' Fundamental Motor Skills
Investigator:	Coby Albone
IRB ID:	STUDY00004135
Funding:	None
Grant ID:	None
Documents Reviewed:	• Institutional Review Board_protocol_form_Albone_Coby 4-11-23, Category: Consent Form; • Institutional Review Board_protocol_form_Albone_Coby 4-11-23, Category: Consent Form;

Revised 1/2018

	• Institutional Review Board_protocol_form_Albone_Coby 4-11-23, Category: IRB Protocol;
Annual Review Date:	

The above-referenced protocol has been approved by the IRB by Expedited Review.

The IRB approved the study from 4/13/2023 to 4/12/2024 inclusive. Before or within 30 days of study closure, whichever is earlier, you are to submit a continuing review with required explanations.

You can submit a continuing review by navigating to the active study and clicking Create Modification / CR. If continuing review approval is not granted before the expiration date of , approval of this study expires on that date.

The approval permits you to recruit subjects up to the number indicated on the proposal application and to conduct the research as it is approved. The IRB-approved consent, assent, information form(s) and/or other documents approved for this protocol are considered the final versions and must be used with participants.

As principal investigator for this study involving human participants, you have responsibilities to the IRB as outlined below:

Overall Responsibilities: Ensure that the study is conducted in compliance with all IRB decisions, conditions, and requirements; bear responsibility for all actions of the staff and sub-investigators with regard to the protocol; and bear responsibility for securing any other required approvals before research begins.

Revised 1/2018

Changes to the approved protocol: A change to any aspect of this protocol must be approved by the IRB before it is implemented, except when necessary to eliminate apparent immediate hazards to subjects. In such cases, the IRB should be informed immediately. To request a change, submit a Continuing Review/Modification/Study Closure Smart Form in the PACS system.

Reportable New Information: Unanticipated problems involving risks to subjects or others, serious adverse events, and serious noncompliance with the approved protocol must be reported to the IRB within 5 business days by using the Reportable New Information Smart Form in the PACS system. All other adverse events and minor protocol deviations should be reported at the time of the annual review.

Record Keeping: The PI is responsible for keeping all regulated documents, including IRB correspondence such as this letter, approved study documents, and signed consent forms for at least three (3) years following protocol closure.

Change of Institutions: If the PI leaves The College at Brockport, the study must be closed or the PI must be replaced on the study through the Modification/Amendment process. If the PI wants to transfer the study to another institution, please contact the IRB to make arrangements for the transfer.

Study Closure: Once research has been completed, please close your study by submitting a Continuing Review/Modification/Study Closure Smart Form in the PACS system.

You are required to retain a copy of this letter for your records. We appreciate your commitment toward ensuring the ethical conduct of human subjects research and wish you luck with your study.

Revised 1/2018

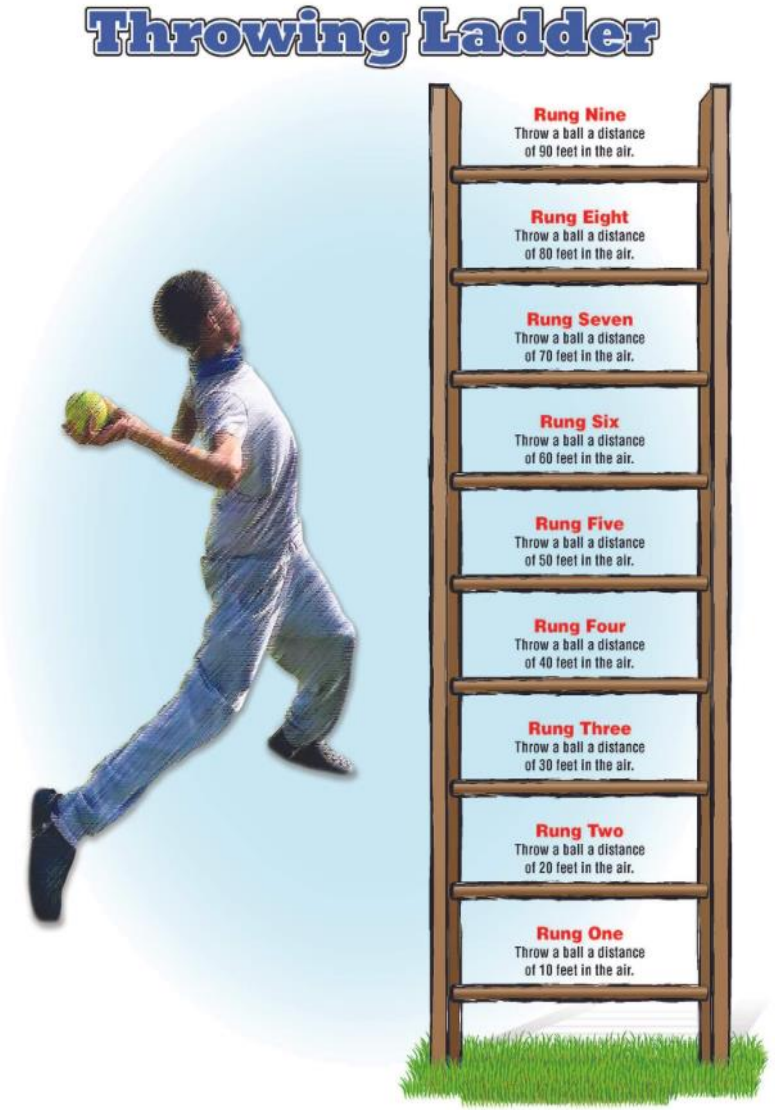
Appendix R: Kicking Ladder (Graham et al., 2023)

On rung six of the kicking ladder, we shift the emphasis from simply kicking a ball for distance to making the ball travel in the air a defined distance. We start with the ball traveling 15 feet in the air; the top rung challenges the students to kick the ball so that it travels 60 feet in the air before it touches the ground.

Appendix S: Throwing Ladder (Graham et al., 2023)

The throwing ladder focuses on throwing the ball a long distance through the air. Once kids have learned to throw the ball for distance, accuracy comes next. In virtually any sport requiring throwing, accuracy is important. But for the reasons listed earlier, our ladder focuses on throwing hard or far.

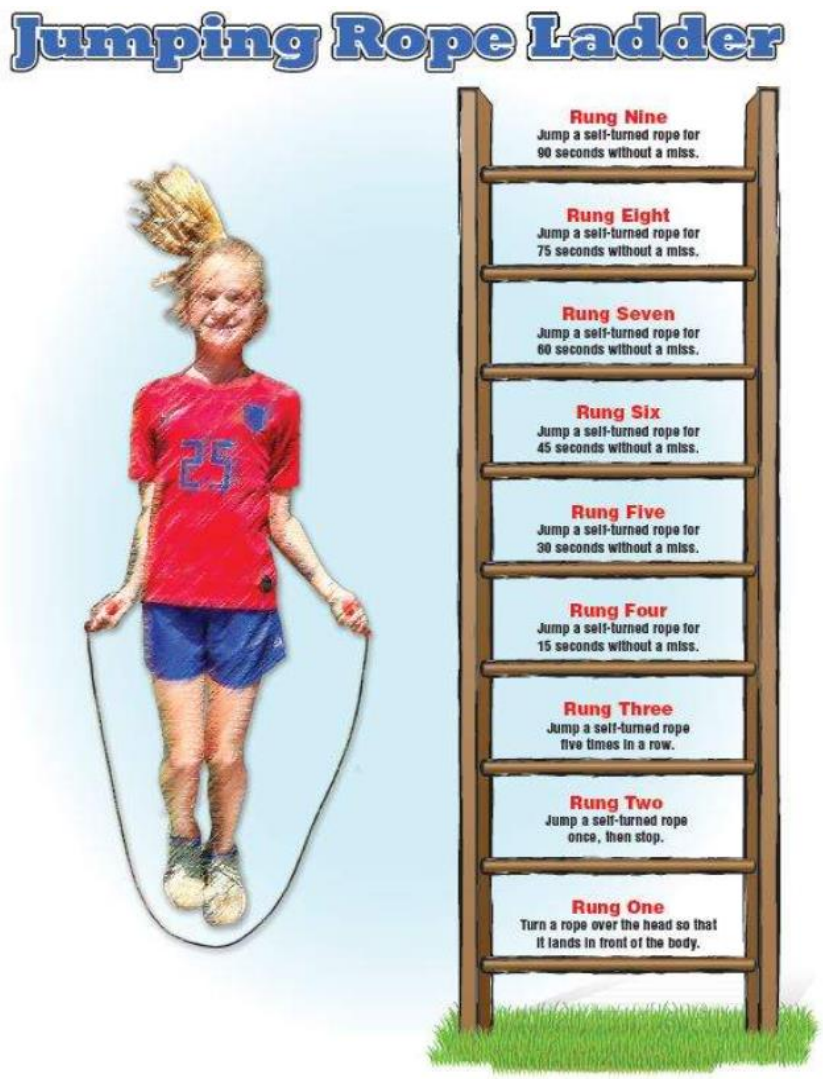
The top rung of the throwing ladder challenges students to throw a ball 90 feet through the air. This is the distance between bases in baseball. If a youngster can throw a ball that far, then they are off to a good start if they want to play softball or baseball.



Appendix T: Jumping Rope Ladder (Graham et al., 2023)

As with virtually all the skills in this digital resource, the primary way that kids learn to jump rope is when teachers provide plenty of opportunities to learn (to practice jumping rope), along with the cues that guide the students to perform the movements effectively.

Jumping rope, like riding a bike or swimming, is a lifelong skill that may be used at various times throughout one's life. Some sports teams use jumping rope for conditioning. Some kids join jump rope teams and do incredible performances. Some adults jump rope for a cardiovascular workout when space is limited. Some people jump rope just because it's fun!



Appendix U: Racket (Paddle) Striking Ladder (Graham et al., 2023)

Depending on the equipment that you have at your school, rackets or paddles may be used when climbing up the rungs of the ladder. Obviously, a regulation tennis or badminton racket is more challenging than a short-handled foam paddle. We realize, however, that different programs have different equipment available, so we do not specify a specific type of paddle or racket.

The type of object to strike when assessing progress on the ladder may also vary from school to school. We prefer tennis or softball-size foam balls that bounce when teaching striking with rackets. Used tennis balls, which have less bounce, are also available in many programs. Local tennis players are often happy to donate used tennis balls to schools. It's important that when you assess the progress of your students up the striking ladder, you use the same type of rackets and objects so that reliable comparisons can be made from month to month or year to year.

Appendix V: School A Student Data Collection Results

THROWING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	14
Percent Meeting Rung 5:	60.87%
Total Boys Meeting Rung 5:	13
Percent Boys Meeting Rung 5:	86.67%
Total Girls Meeting Rung 5:	1
Percent Girls Meeting Rung 5:	12.50%

KICKING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	22
Percent Meeting Rung 5:	95.65%
Total Boys Meeting Rung 5:	14
Percent Boys Meeting Rung 5:	93.33%
Total Girls Meeting Rung 5:	8
Percent Girls Meeting Rung 5:	100.00%

STRIKING	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	3
Percent Meeting Rung 5:	13.04%
Total Boys Meeting Rung 5:	3
Percent Boys Meeting Rung 5:	20.00%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

JUMPING ROPE	
Total # of (Identified) Boys:	15
Total # of (Identified) Girls:	8
Total # of Non-Binary Ss:	0
Total # Meeting Rung 5:	1
Percent Meeting Rung 5:	4.35%
Total Boys Meeting Rung 5:	1
Percent Boys Meeting Rung 5:	6.67%
Total Girls Meeting Rung 5:	0
Percent Girls Meeting Rung 5:	0.00%

Appendix W: Post-Data Collection Transcribed Interviews

Interview Transcript
Interviewee: Todd
Date: 5/3/23
Time: 3:00 pm
Location: Physical Education Office

R - Alright, so first off, thank you for taking the time to meet and talk to me. I greatly appreciate you helping me out with my research. Second, please know that nothing we discussed today will go further than this room. With that being said, do I have permission and consent to record this interview?

T - Yep.

R - All right. So jumping into the interview here, what position do you hold here at the school,

T - Physical Education teacher here at the Hill School, fourth and fifth grade.

R - What grade levels have you taught throughout your career?

T - In Brockport, just fourth and fifth, but I've had some long terms for middle school prior to that. So sixth, seventh eighth, but mainly fourth and fifth grade.

R - How many years have you been teaching overall?

T - For fourth and fifth, this will be my ninth year overall.

R - Already. So looking at the curriculum, can you give me an overall and an overall view or overview of the units and activities found in your K through five curriculum and you can talk about just you know, the school here, fourth and fifth is fine as well.

T - Yep. So here, we do kind of a wide variety of activities. So things from team sports to some life skill things to different types of individual sports. So typically, we start the year doing football and soccer in the fall, and then we'll transition to some different types of cooperative games, things that require students to work together, think about some strategy, problem solve through different types of games. In the winter, we'll hit swimming is a big unit for us, as well as badminton, basketball. So, we have some individual sports and some team sports in there. We also do things like pillow polo, team handball, and then once we get outside in the spring, it's outdoor games, and wiffle ball softball, baseball, those type of games.

R - Cool! A lot of good stuff there. All right, so what would you say are the main goals of the PE program here that you have with your students that you want them to accomplish by the time they leave school?

T - Yes. So, I think the main goal is to have safe participation, right. So when kids come into Phys Ed, they should feel safe, not only in what we're doing an activity physically, but also emotionally and mentally with their classmates and how we approach Phys Ed. And I guess the main goal here, is leaving fourth and fifth, is we hope to kind of give them a little bit of an interest in some different activities that they hopefully look to pursue outside of Phys Ed, where they can kind of build some habits for lifelong fitness and physical education. Whether that be through outside teams, or maybe a love of some sort of fitness or running whatever it may be. I'm trying to give them the tools to be able to pursue those things. And then hopefully some of the skills that we cover, things like striking and throwing and kicking, translate over into the other grades where they kind of have that prerequisite going into the middle school, which it is a little bit more heavily based on team sports.

R - Okay, cool. Did you have a chance to develop these goals or who did develop these goals?

T - Yeah, I think they've kind of been established since I got here and then they've been, you know, modified. So yeah, I definitely did help develop these goals, but I think it's always just kind of been a cornerstone of the Phys Ed program here and in Brockport as well.

R - Do you know or do you or the school use any specific documents or resources to aid in the process or the development of these goals?

T - Yeah, we do we use the….

R - The curriculum document?

T - Yeah, the curriculum document from I believe, NYSAHPERD. That is what we've been typically using over the past few years to kind of help develop goals in each unit. So, if we're doing like a soccer unit, you know, yeah, we want to teach the game of soccer. And some of the rules and strategies, but we also want to try and meet some of those goals in terms of kicking and receiving and things like that. You know, same thing with say, a sport like badminton, like, yeah, we're teaching the sport so kids can play it, but we also want to make sure that we look at that curriculum document. Fourth and fifth graders should be able to strike in this way and try and hit some of those goals as well. So, using that curriculum document is really the big one that we use, to help develop what we do.

R - Are there other factors that influences these goals that you've created? I mean, you just mentioned a couple of good things so.

T - Yeah, I think you know, I think it depends it goes year by year, you know. You kind of take you know, you have your goals when you come in and then you have to kind of look at the kids you have in front of you and sometimes maybe you set the goals a little bit higher because then maybe there's certain classes or grades that maybe a little bit more knowledge. And sometimes maybe you got to knock the goals down a little bit or set that bar a little bit more realistic because you know, maybe you have a class where kids aren't as exposed to activity. So, I think that it's a year by year basis are the factors really depend on what you know the class you have in front of

us and what the kids level of ability is. And that's kind of you set those goals and year by year.

R - Yeah, definitely get that. Alright, so changing gears here a little bit. We're hear in society about an obesity crisis with kids and many believe that kids today don't have the prerequisite motor skills to lead to physically active and enjoyable lives. Along with that, they don't, or they won't have the skills to stay physically active throughout their lifetime. Would you agree with that opinion? For kids overall in society today?

T - I think, um, if you were to ask me this five years ago, six, seven years ago, I would have said maybe, but I think over the past two or so years, I would definitely agree with that statement, and I think we're definitely seeing a transition, whether it be post COVID. Whether it be the increase in technology, but I think that we're definitely seeing that lack of in the prerequisite motor skills and maybe just this the ability and knowledge to live healthy, healthier lives, active lives.

R - Right. So, if you had to guess, me a percentage of your fifth-grade students who are close or currently fit the statement that "they don't have the skills that they need to be physically literate." What percentage would you say is that is right now?

T - Um, fifth grade students. You know, it's tough because we have definitely have kids that do a lot and you know, I don't want to sound like I'm high balling and here, but I would definitely say we're looking at 40 or 50% of the students are maybe lacking in those skills to be able to, you know, live those healthy, enjoyable, active lifestyles that we're talking about.

R - And why would you say this anything specific?

T - I think you just kind of see, you know, when you're doing fitness testing, you kind of look at some of the scores where, you know, a couple years ago you would see the scores were definitely higher. They were more within that healthy range. And, you know, we're definitely seeing scores that are much lower if some kids can't even perform the test. And you know, when you're looking at some of the motor skills, things like throwing and catching and striking. A lot of students just have a very, very hard time of doing those skills. Skills that typically kids come in, even if they don't necessarily play sports and things outside of school or organized sports, they could typically do fairly well. And I think we're just seeing that lack of play. Kids aren't going out and playing any more and playing outside and playing a pickup basketball game or, you know, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just playing into more of a technological age, you know, post COVID, which I think that that's definitely contributing to that problem that we're seeing here.

R - Yeah, for sure. Alright, so the National Learning Standards. This says that individual physical literacy is a massive component within those learning standards. So, SHAPE America defines physical literacy as "the ability to move with competency and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of a whole person." Based on your personal experience and opinion, what percentage of fifth grade

students would you say are physically literate individuals and I know this kind of goes back off of the last couple questions we've talked about. Before I talk, and I'll let you give your thoughts.

T - Yeah, so we're talking about kids that that can do these things.

R - Yeah.

T - We're looking at probably, you know, being able to, you know, I think the big one here is obviously moving with competence and confidence, but in multiple environments. Now I'm thinking we're looking at like probably 30% of those kids can probably, you know, 30, probably maybe a little less 25% could probably go and do some of these things with confidence, you know, in multiple environments.

R - So for the kids who are meeting the expectation, why do you think that is?

T - I think it's exposure at young age to different types of whether it be outside sports teams. I know, I kind of come back to you know, family values, you know, where their family values on physical activity, and is that something that they make time for and are you know. I think even more importantly is that as are our parents, our kids seeing their parents being physically active, physically healthy, you know, when kids are young at this age. Talking about nutrition, they can barely make their own food right. So that's the parents preparing healthy meals. Is it the easiest thing to throw some process on the table and be done with it. And, you know, I think that a lot of that again, and what kids do outside you know, are you playing with your friends outside doing activities or are you not playing with your friends, but you're seeing them on the computer playing different types of you know, these online games. So yeah, I think that's, that's a big thing. You know, we can come in here and we can have students that you know, we can teach the greatest Phys Ed program in the world, but if they leave here and the only physical activity and the only time that they're, you know, throwing a ball or striking a badminton birdie, is in Phys Ed, they're not going to get the skills. It's not really going to be making headway. So, the kids that seem to do these things outside of that, I think are the ones we're seeing that are being more physically literate, and it's not even the ones that are doing organized activities to be organized. It's, you know, kids aren't just playing those pickup games anymore. And, I think, you know, it comes back to that, and I think it really all comes back to what's valued in the home. You know, I think that's the more the more I hear, the more I you know, realized that it comes back to home life and sometimes the teacher, there's nothing you can can't really do much about that you do what you can in school, but, you know, sometimes that the home life is always going to make that blockade of why we're maybe seeing this trend that obesity and kids are being physically literate and kids aren't having the skills and tools to be able to do different activities.

R - Well, so what are some things, I know you have a bit of a role here in the community, and in the school, but what are some things that kids do in the community? Outside of Phys Ed class that may influence whether they are physically literate or not and you know positive negatively?

T - Yep. So positively, you know here and you know, we will post any type of outside sports clinic that we get for whatever team it is in different types of organizations. Whether it be

football, wrestling, lacrosse, you know, baseball, kind of the basketball things that we see, we post. We make sure we announce to the kids, which I think kids get very interested in that. I think we're seeing, hopefully, you know, that's just pushing kids where maybe they can't find or they're not really sure where to get this information from. So hopefully our part and giving it to them in class, you know, Sweden Rec has great programs. They're one where the kids take advantage of. If there's organizations, I would like to see more. I think a good thing that some communities do that I don't think we necessarily do here, is just doing some sort of outside summer camp. I want us to get like a daycare, good days camp where kids can come to the school and you can just set up you know, different games and kids play different games outside and there's nothing that is too much pressure where it's competitive. And you can do things like kickball, you can set up badminton inside. You can use the playground; you can sit up football where kids just can be kids can just do some sort of organized structured sports but it's not that competitiveness that I think maybe kids shy away from. But you know, I think that the positive is, you know, we have a lot of community activities and things that kids can do. I think it's just getting kids involved and doing that and hopefully, by us promoting it here and then maybe we can spark some interest in some of the units that we do. I think the negative influence is just going to be again, a lot of it is maybe kids not knowing where to find it. I think sometimes going digital hurts because everything we have to do is putting us on the computer. So sometimes if a website's not super user friendly, or maybe they don't have access to internet in the home, which is a really big possibility, they can't get that information. And I do think that again, the big increase in technology is the fact that schools are putting so much more of an emphasis on kids being on computers and using technology is hurting. I can't tell you the times I've come into Phys Ed and the kids are talking about their fortnight match from the night before. So, one o'clock in the morning, you know, it's not even just here. It's you know, it's adults that do it too. We put so much emphasis on kids being, you know, computer literate because, you know, another pandemic and this and that but it's also hurting us in that kids are in front of a screen all day and they go home, they get to be in front of a screen all day. So that's the negative stuff in the community is the fact that we are pushing so much technology where yes, maybe it makes things easier and there's good to, but in terms of physical fitness and activity, a computer can't get you physically fit so.

R - completely agree. Changing gears again here, as you can get into the classroom, in the Phys Ed setting, are you currently assessing your students fundamental movement skills?

T - I would say yes, not necessarily on a formal level where we have you know, charts and stuff like we do, you know, constantly do some assessment where it's more observation based where we can kind of see you know, where they're struggling, where they're doing well. So, we don't use necessarily paper you know, those formal assessments, because it doesn't tie into our grades. We're standards-based grading here. So, a lot of our grades are based more on preparation, responsibility, effort based as opposed to actual numbers. And class time is short. So you know, to do this, it cuts into some class time. We have big numbers, yet we are responsible for a lot of students. So, we do what we can to assess, but it's more of an informal observation as opposed to more of a formal specific test that that we use.

R - Gotcha. I'm looking at your bookshelf here, do you or have you ever heard of P.E. Metrics,

which is a formal tool that follows the national standards for Phys Ed?

T - I have probably when I was in college, but I haven't heard much of it recently, so that might be something to definitely look into. But yeah, I have not really used it recently. Our big way of assessing when it comes to fitness is we use fitness gram. That's maybe the most formal assessment that we do that's maybe well-known but ya know, haven't heard of it, but have gotten away from it over the past couple of years. So

R - Gotcha. So, I know that you've had a little bit of experience with what I've shown you and what the kids did, things like that. And that's the Ladders to Success assessment tool. That's kind of what my whole thesis is about. So based on what you've seen, is that something that you may have interest in using with your students in the future and I know that we'll talk about some of the data here in a few minutes. But any interest in using that and then just why and why not?

T - Yeah, I think so. I think we're always looking to try and find a good way to formally assess our students as long as it it's, it's feasible I think in a setting where you have maybe 20 kids and you're just doing one class that everything seems great, but when you have 50 kids in a class, you have 40 minutes, you know, limited on time. Limited on equipment. I think that that makes it tough. So any type of assessment that seems to kind of meet those realistic barriers that we sometimes we see in Phys Ed. We would love to use I think that you know, before I would use a couple of you know, as we're going to dive into some of the research here, just, you know, what are some of the ladders, you know, lower, higher? And what are some of the reasons for some of the tests being used, like, where's the research? Why this one seems to be, you know, what we're using as opposed to something else and you know, and again, more, I guess, more in depth on how it's used, okay, that would be something to look into. But again, if it, you know, works well and meets realistically what we can do, and it's got some good validity and reliability to it. Yeah, absolutely I would think about using it.

R - Cool. So just a little bit of insight and again, I know stuff we've talked about, when it comes to the Ladders. I know I have an example I'll give you, but so each ladder has nine rungs or steps that gives an objective progression for each student can strive for, towards you know, throughout their career. So, using the kicking ladder example. So the first rung is that the students can kick a stationary ball without falling over. That's something that you typically you know, something that's very early on in their life, you know, maybe kindergarten first grade level, and then as you work up the ladder, you have rung five that says kick a ball, a stage stationary ball, a distance of 50 feet. Then the top rung says kick a ball through the air a distance of 60 feet. So that's kind of a little bit of insight into what I was doing and the type of tool I was using for my thesis here, so we'll talk about some of the results that I got from your students. Let's go ahead and start kicking. So, after the data collection, I had 22 out of the 23 students that could kick a ball 60 feet. What are your first thoughts on that?

T - Um, yeah, I think that seems pretty reasonable. Considering you know, the goal is to kick it 60 feet, whether it be on the ground would be in the air. You know, and we're not looking at necessarily the technique of kicking, so I think that you know, I would expect it to be a majority of our students kicking wise just for distance. Yeah, I think that they could do that.

R - Um, how important do you think this goal of kicking is and why if you're going to ball 60 feet to the to a fifth grader?

T - Yeah, I think it's important just you know, not even saying it and it doesn't even come back to whether this kid wants to play soccer or wants to play in a school team but I look at it more as you know, when if a kid was goes out on the playground and kids want to play kickball, like are you going to feel confident you can actually kick the ball you know, a certain distance. So, I think that for a fifth grader, how important is it? I think it's pretty important. Would I say it's the most important thing we do? Probably not, but I think a kid should whether it'd be for distance or even especially you know, the technique of kicking understanding, you know, where your dominant foot goes. Where your plant foot goes, I think is pretty important. You just want to be able to do those skills. If you're in a situation where you know what you're playing with your friends, and you don't have to sit out so would it be like this is the top-of-the-line important skill? No, but I think that every kid should have a base of kicking and throwing regardless of what the goal is.

R - So this one might not apply the best. But is there anything you think can get done to have more kids do it and for us right now we know that 20 to 23 which is almost everyone. I wish I could remember exactly what happened with that ones who didn't make it.

T - Um, you know, if I just take the 20 out of the 23 and if I'm looking at, you know, regardless if they made it, you know, I try to analyze everything regardless, they just made the 60 feet you know, I think something that we can do you know, we do a soccer unit, we do some different types of kickball games, but you know, I would think that if you just do it once or twice a year with kicking stuff. Maybe that kind of activity, don't get that the repetition so maybe at certain times throughout the year throwing in some different types of kicking games. Whether it be some skill work in kicking, whether it be for one or two classes, just to keep kids fresh with anything. Whether it be throwing or kicking or, or striking where you're just, you know, we're not going to do any type of game, but we're just going to work on our technique of striking, you know, a couple times throughout the year so we're always revisiting it. They can just focus on the skill of striking as opposed to striking. So, maybe having more just days where we're incorporating throughout the year and sprinkling in just basic skill-based progression days could be something that could help some of the you know. I know we got a pretty good outcome here, but you know, that they'd have outcomes thinking about technique. I mean, I'm sure a lot of those kids didn't have the greatest of technique. So, you know, maybe that if we did you know, maybe that we got that 23 out of 23. So, outside of school that's going to come to hopefully giving kids more opportunities to do things like soccer and different types of where they go to the Rec Center and play kickball but in school I think if we could, you know a couple days a year sprinkle in kind of some of these skill based days think that would help just keeping kids getting repetition so they don't forget how to do those things.

R - Alright, so the next few sections are going to be repetitive. I was talking about the other three skills that we did with the students. So the next one we have is striking with the racket. So, after collecting the data, we had three out of the 23 students who could strike a ball upwards, continuously, alternating both sides of the racket six times in a row while staying inside of a

hoop. What are your thoughts on this?

T - I want to say surprise, because the numbers low, but I want to say that I'm not surprised knowing the students and knowing kind of the landscape of what we're looking at in some of these earlier questions with kids being physically literate and stuff so surprising that again, the numbers low but not surprised because it's, again, the students you know, when you're working with these students for almost an entire year, you can kind of get a good gauge of how their fine motor skills are going to be and some of their coordination. So, I think that yeah, it was pretty standard. But of course, as a teacher like man, that's a pretty low number.

R - Yeah. Alright. So how important would you say this skill and this goal is of striking the ball consistently, alternating both sides six times in a row inside of hula hoop? I know is this that something that doesn't happens typically in sports or something that is, this is kind of a more specific skill and activity?

T - Yeah. So, I think if you're looking specifically at the skill, probably not incredibly important, but if you're looking at the hand eye coordination and being able to judge force and how hard or soft to hit the ball, being able to orient your body and by staying in the hoop and knowing where you are. I think that that's incredibly important. I mean, are a lot of things that we do work on fine motor skills and gross motor skills, not just you know, for Phys Ed and sports, we have things that we do in the real world. So yeah, the specific thing, we're hitting the racquet, probably not, but if we're looking at what we're trying to hopefully measure and that's some gross motor skills, some coordination, and they got to work on some balance. I think it is incredibly important. And I you know, I think that students should, you know, be able to, to do this, you know, we were having some students who would hit it once and it would go flying or you know, we'd have some students that can do the six, but I would like to see us hopefully get more in the future. And again, that's a lot of the, again, judging force, how hard and soft to hit stuff. So, all those things are I think are important in what you're trying to measure. I just, you know, getting the skill not so much but what we're trying to measure is pretty important. So.

R - Okay, good. If there's anything you'd like to add on, I know we asked this question with kicking. Is there anything that in the future could change or be done differently to get those students closer to the school?

T - You know, we do some badminton that's about it. So we don't do a ton of racquet sports, especially with those type of balls so I you know, when we incorporate some different types of racquet sports like a pickleball or something into our curriculum, where maybe we're striking different objects in different planes. I think this would definitely help in that regard, as we only do badminton now using a long-handled implement from a using a different type of implement, you're striking that birdie as opposed to that ball. So I think if we maybe incorporate a few more racquet based activities into our curriculum that could help a little bit and again, outside of school, you know, it's just going to be kids seeking out some opportunities to, to get on different courts and play you know, whether it's, you know, tennis or pickleball, or badminton, which is not those are not typically the easiest sports for young kids to seek out. But yeah, I think for here if we maybe incorporate a few more racquet sports, you know, that could definitely help them

just getting familiar with different implements and striking.

R - Alright, jumping rope, so, after the data was collected, we had one out of 23 students who were able to jump a self turn rope for 30 seconds without a miss. What are your first thoughts on one second here?

T - Yeah, that's definitely not surprising to me. Yeah, we, we did like a kid's heart challenge. We had some different stations a couple weeks ago. And you know, we have some jump roping stations. So, watching some of the kids jump rope kind of definitely expect that. I think 30 seconds is definitely a long time for you know, unbroken for younger kids to jump rope, especially if not incredibly efficient at the skill it gets very tiring. So, that's not surprising to me. I think that that's definitely what was expected when I first kind of saw the result.

R - Okay, how important of a goal do you think this is of jumping the self-turned rope for 30 seconds for fifth graders?

T - Um, I would say this is pretty important because you're we're talking about how we're doing a lot of different skills when we're working on jumping. We're working on coordination. It's a great way to work on some fitness. So, I think that you know, it's working in cardiovascular fitness, you can do a lot with that. So, I think students being able to jump rope for an extended period of time with good technique and I think that that's pretty important because you are working on a lot of different things and timing with that. I you know, I think that 30 seconds for a lot of kids that are young that this definitely a longer time but I think that should be something that students if progressed properly, you know, at this age should be able to do that.

R - Again, anything in the future you think could be done, either in and out of school, to get that those students closer to this this goal?

T - you know, I think in school is that you know, I think about the times we do jump rope, they do a little bit in our fitness center, or they'll do like our jump rope or kids heart challenge unit but we don't do a ton of it. I know there's a lot of like good jump roping units where people do different progressions and use different types of implements, and different types of rope. So, I think almost if we incorporate some form of jump rope unit that's very progression based where we're starting at step one, and hopefully working up to a certain amount of time for you know, unbroken jumping rope, I think that there would maybe bring up some of those numbers because you know, you watch a lot of kids jump rope. I was watching some of them jumping backwards. They got their arms all over the place. They bring their legs up real high, they get it's more exhausting than not very efficient. And so, I think it'd be incorporating some sort of a jump roping unit eventually for a couple classes where there's some progression based on, I think that would help. Hopefully bring up some of those numbers.

R - Okay. Alright. So, I think this is our last skill here. So, a little bit left, but throwing wise we had 14 out of 23 students who could throw a ball 50 feet in the air, so roughly about half. What are your thoughts on this?

T - Yeah, I think that this is pretty standard. I think when we're looking at throwing the ball in the air. I think that's kind of what was expected. I think that you know, I was going to depend on how often they throw, or you know, their technique of throwing. So yeah, not too surprising.

R - Alright. What would you say is there an importance of throwing a ball 50 feet?

T - No, I just think throwing is just an essential skill that kids should definitely know how to do regardless of if you're playing throwing sports or not. I mean, for it again, we're looking at a kind of Phys Ed and I think it's important for a lot of the activities we do require you to throw, require you to catch outside of that. I mean, I guess you can get away not being a very good throw. Right? But yeah, I mean, I think it's kind of similar to kicking. I think it just depends on what the person is trying to accomplish later on. But I think that because so many sports and so many things we need to do just in general you know, throwing whether it's you know, like throwing a ball or you know, tossing something to someone. So how important I think it's? It's pretty important. I wouldn't say it's like top of the list important but thinking about, you know, some of the thing's kids can do with it outside, it would make life a lot easier if they could throw a ball 50 feet, you know, when they're playing with their friends and stuff.

R - Yeah, yeah. Okay, last one for this section here. Anything that as you look into in the future that could use to help increase this and maybe it would have been done differently in school to help your students reach or get close to the rung five goal of throwing,

T - You know, we may be similar to kicking but we do a lot more throwing and kicking here just in different games. We throw a lot of different objects and implements and things like that. So, I think we do a pretty good job covering throwing technique. Again, maybe doing some specific skill-based days or just focus on the skill of throwing whether it be for distance or for accuracy or for technique, where it's not putting to game context, but I think a lot of that's going to come back to kids doing these things when they're outside of school to you know, play is important. Playing in outside organizations and things like that. If that's something they want to do, I think that we have to do more of it outside of it. I think we do a good job of throwing through to a ton of throwing games and cover that a lot. It's going to come down to kids can get in those repetitions, maybe outside of school, whether they're playing with friends are doing different things that involve throwing, okay.

R - Alright, so we're kind of looking at the data that I gave you. So based on the data represented or results presented, how would you use this information as a PE teacher.

T - Okay. Yeah, I think you know, if you're looking at the results, I think it shows that there's definitely a need in some areas, especially jumping rope and striking. Kicking seems to be pretty successful. Add maybe another type of striking unit. You have to add like a pickleball unit or something like that and maybe adding a jump roping unit or a mini unit that requires jump roping with some progressions. You know, we talked about throwing you know, that's going to, you know, to get thrown in the kicking things we typically do teach and do a pretty good job at but again, maybe adding a couple more using these, Alright, so that has to be one of our goals now being able. Alright, these guys at the end of the soccer usually kick a ball 60 feet on the ground.

Alright, when throwing, I want to get the ball higher, I got to release a little bit higher and things like that. So, you can use it to kind of drive your curriculum a little bit and also your goals because now you can see where there's a need for certain things significantly and where some things are pretty good, but their errors you can do better. So.

R - Okay. Do you think that this data is worth having and collecting? Or do you think that it's not very telling of the physical literacy levels for fifth grade students?

T- I don't think it's not worth having. I think that some of the data, I think it's finding out maybe almost having more. Start at the bottom of the of the ladder a little bit more and start with some easier skills and then work your way up to kind of see where, alright, this is where we're starting to lose kids. Whereas if we started at step one, okay, majority could do 1, 2, and 3 kind of working through it. Now we can see where the breakdown is a little bit more a little bit more meaningful because they've also had that right warm up period. You know, same thing with some of the other skills, you know, starting kind of at the bottom and then almost trying to hit those steps and more of a sequence. So, then you can get to the point where right, well this is where we're breaking down the striking where we're alternating palm up, palm down, well, okay, so now we can kind of go from there. So, I don't think it's not worth having and collecting as long as that were, you know starting at the right level or even starting below where we think we should and then working to a level that's tougher.

R - Alright. Was there anything about what you saw with the numbers that surprised you?

T- No, not really. I think once I heard the test and I kind of again judging the landscape of our kids, I think that that's kind of what I expected. I knew jumping rope and striking was going to be difficult. And I thought that the kicking was definitely one you heard what the parameters were, that was going to be the one that would be most successful. Within throwing, this was going to be about 50/50 kind of based on kid's experience throwing in strength and technique and stuff like that. So not too surprising, surprising again, in that well, we have students that, you know, can jump rope once or can, you know, have hand eye coordination, but when I look at the students, it wasn't surprising in that regard. It wasn't unexpected, I should say.

R - If you had to guess, do you think that most kids in the US here would have similar results to your students if this was, you know, a nationwide study done in each state and reported big numbers, things like that?

T - Yeah, I think so. I think that I would think that you're going to see similar results. Yeah.

R - So as a Phys. Ed teacher, do you think, I know we kind of briefly already talked about this, but do you think that there is a crisis in kids today that aren't physically active that are acquiring the fundamental movement skills?

T - Yeah, I think so. I think we are seeing that I mean, the number of kids you know, nine years ago that would come in and you know, even if they didn't play a specific sport and organized league can do some of these things. The amount of kids now is definitely dropped off. So I do

think that we are in a bit of a crisis in that and kids getting those fundamental motor skills. We saw a difference in you know, did they say nine, eight years ago it was we had kids that played. Maybe they weren't the best, but they weren't completely couldn't do it. But now we're seeing a big gap where it's either the kids do it, or they don't and there isn't there's not too much of that in between anymore.

R - Is there any other data that you would like to know about your students, whether it's related to fundamental movement skills, or any other areas? Are there other things you'd like to know about? Or have, you know, an absolute number or a telltale sign about their performance or something like that?

T - At this time? No, I think we know what we do. Fitness is a big one. I would like to see where our kids are fitness wise. We do some fitness testing, whether it's the most reliable or not, you know, it's what we use right now. I'm sure if you happen to rattle off some different tests, I would say that's probably pretty good. I want to see that, but off the top of my head no, I think we kind of covered some of the throwing and kicking one are pretty, pretty standard.

R - So from this study, this was probably one of the first done using this tool and that exploratory type of study. But do you have any thoughts for future studies that you think would be interesting to see done?

T - No, I think that I mean, I think that now I'm interested to see kind of the whole ladders and see what it's about and maybe finding a way to use that. What we talked about incorporating it. One getting, seeing what the validity and reliability is over a period of time and then trying to find a way to realistically incorporate that into a school setting as opposed to a testing environment, which is kind of how we did it where, you know, a class can come in, hey, this is what we're doing today. And you're able to run through it in your 40 minutes, 35-minute class that you have and get some pretty reliable data on that.

R - Okay. So as we kind of wrap up here, so for the children that were successful, and I know the sheet I gave you with the data on it has the boys and girls the numbers and all that stuff. What do you think are some similar characteristics that they all share for the students that were successful?

T - Yeah, I think the similar character is they've probably all either they play sports in some sort of outside organization, whether it be soccer, whether it be baseball, basketball, and I think that they do a lot more, you know, outside playing when they get home. Whether it be on the weekends, or you know, I could probably take the kids on the playground, watch them playing and point out the kids that I think were probably the ones that were successful and point out the kids that probably weren't just based on what they're doing outside.

R - Okay, flipside of that kind of answered a little bit, but do you think you could guess and find any similarities? Could you even say a couple of similarities if you'd like between the children who were not as successful?

T - I think a lot of it's going to be no. I think if you're looking at fitness is probably going to be a big part of it. You're going to look at the kids who don't know whether they choose not to or they don't have access to or maybe the parents or whoever isn't taking care of them. They might not be involved in that regard of doing outside types of organizations and sports and stuff that might not be the priority. You know, kids when they're playing outside on the playground, they're not playing the pickup football or you know, using the monkey bars, but they're kind of, you know, sitting you know, sitting down doing stuff on their phones and computers as opposed to being outside and playing so. So yeah, I think that you're going to see the similarities of the kids that just, they're doing more you know, more screen time you know, less time outside. The amount of kids that you know, I'm playing you know, video games, it's like, where the other the other kids were getting outside doing something. So, I'm sure I'm sure you're going to see the similarities and go to the playground you told me to point out, kids that did it kids that did and I'm sure that, you know, I could point out point that out to you.

R - Yeah. Okay. Alright, so last question I have is do you have any lingering thoughts on that you'd like to share regarding everything we've talked about things you've seen, lingering last second thoughts or questions?

T - Um, no, I think that we covered I mean, they said that the data is good. It's eye opening in that. You know, we definitely, you know, we're seeing a decline I wish we had data like this from you know, the tests, you know, five, six, seven years ago, or even, you know, pre COVID to now. To have something to compare to, because I just think that we're definitely seeing a drastic transition of kids that are less physically active, less physically literate. Well, less could be bothered about physical activity where, you know, you hate to say sometimes it's, it's looked down upon for being physically active and being healthy, you know, and I think that we're definitely shifting away from that where we got to, we got to somehow turn the needle the other way and you know, maybe if kids and their parents saw, you know, some of this information, you know, we used to give out fitness test reports. And, you know, parents didn't like to see that their kid couldn't do a push up, or, you know, we used to give out height and weight. And parents didn't like to see that their kid was overweight. So, we'd always get the emails and we stopped doing that portion of it because it was more trouble than it was worth but, you know, because I think sometimes parents know but they don't want to see it. They don't want to, or they don't want to believe it. So somehow finding a way to be yes, to be sensitive to the situation because for a lot of families it can be, but finding ways to show families Hey, we're not meeting this standard kid can't do some of these skills, your kids not physically fit. And then you know, maybe it's our job. Maybe as teachers to jumpstart some sort of a plan for them. We can't do it all right, but they will just say hey, these are some steps that you can take moving forward to hopefully, you know, get your kid trending in the right direction. But you know, we're definitely seeing that transition. And, you know, it's sad and I hope that you know, some of these tests and things and as we get further away from maybe COVID, it brings that to light, we can kind of get back to how it used to be or just getting somewhere you know, being physically fit and physically active is a priority where now it just doesn't seem like it as much you know. We're seeing in athletics too. Kids don't want to do athletics anymore. It's, you know, there's easier things kids can do that, that you know. We are losing kids in athletics where you know, numbers are down and also across all sports teams you know, and that's going to hurt. I coach like

wrestling, that's a pretty physically demanding sport. I'm like, you know, I look at a sport like football to hear where the numbers are low and footballs. A big sport like where are we going to be in five years from now with our numbers if we're losing kids now? So, we got to find a way I think to shift the needle the other way and hopefully getting some good data and assessments and they're bringing to light you know, this is what we're looking at is a good start. Yeah.

R - Well, thank you for letting me interview you. I really appreciate you letting me collect the data on the students.

T- Yeah, no problem.

Interview Transcript
Interviewee: Erica
Date: 5/5/23
Time: 8:00 am
Location: Physical Education Office

R - So, first off, thank you for taking the time to talk with me. I greatly appreciate it. Second, just so you know that nothing we discussed today will go outside of this room. So do I have your permission and consent to record this interview?

E - Yes.

R - So jumping into the interview here. What position do you hold here at the school?

E - I teach fourth and fifth grade, Physical Education.

R - What grades have you taught throughout your career?

E - I taught nine through 12 for seven years. So high school for seven years. And then I've been at this level ever since.

R - How many years in total?

E - Have you been teaching for 27 years.

R - Alrighty, so looking at the curricular goals, can you give me an overview of the activities and units found in your K through five curriculum here in Brockport?

E - Our entire curriculum?

R - Just a couple of main ones I guess.

E - Okay, um, we do team sports, so like are you looking for specific sports? We do team, you know, team sports, pillow polo. We do football, we do soccer, we do lacrosse. We do you know baseball and softball. We do volleyball and then we have a pretty extensive fitness unit where we break it down into fitness, testing and just fitness in general. We do lifetime sports. We do outdoor activities, you know, like Kan Jam you know, outdoor your games. What else? We play cooperative games. We do a big cooperative game. We can focus on those life skills.

R - What would you say are the main goals of the PE program here at the Hill School that you have for students and what would be like for them to accomplish by the time they leave?

E - For me, it's getting them moving. So increased activity. Second, is for them to have an appreciation and understanding of just overall wellness. You know, how activity fits in with that

and how nutrition fits. In with it, how you know, just exercise in general, how sleep fits within our life. Just finding lifetime habits fit in with that. So, they get just an overall picture of what wellness looks like. Those are probably the main things movement, wellness, and enjoyment and hopefully like identifying things that they like and enjoy and are good at. So, you can kind of prompt them to get involved in other ways.

R - So who developed these goals? And then if it was someone else did you have a chance to help out or kind of recreate these? I know you've been here for a while.

E - I mean, we usually follow New York state and national PE standards. So, we were guided by that. And then, you know, we work together as a K-12 department to, you know, be specific and how we're offering them you know, so it's kind of holistic, K-12.

R - I know you said that you use the national and state standards. Are there any other specific documents that you guys use to aid in the development of these goals?

E - Well Fitnessgram. We utilize the Fitnessgram for fitness testing.

R - Alright, so we hear about in there is an obesity crisis with kids and they believe that kids today don't have the prerequisite motor skills that lead to living physically active lifestyles. Along with that, they may or may not have the abilities and skills to stay physically active for a lifetime. Is that something you would agree with for kids overall today in society? What would you think these reasons are?

E - Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did. You know, back in the day, I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible. I think that's a factor. I think, safety in general, parents are a little bit more concerned about safety, so they're not as likely to let kids go out and play. There's a lot of factors that contribute.

R - What about here at school? What are any things that maybe limiting students from getting those levels of physical activity?

E - Within the school community?

R - Yeah.

E - Like as far as teachers not taking them out to for recess. I think that there's so much pressure academically on meeting you know, reaching certain minutes of academics that you don't see the longer recesses. You don't see the focus on getting up and moving. So, I think a lot of these kids, they come in and they have PE twice, maybe three times a week, and that might be the only

activity that get in a day. If you have some teachers that really focus on getting kids up and moving and that's awesome. But not everybody does.

R - So have you had a guesstimate the percent of your fifth-grade students who are closely or currently fit to the statement and the statement is that they don't have the skills they need to be physically active. What percentage would you say that is?

E - Of kids that don't have the skills to be active?

R - Yes.

E - Like, independently active?

R - Yeah, either way independently, it's looking more cooperative, or more physical, like, just the skills and generally all that stuff like life skills to use, the fundamental movement skills, things like that.

E - That's a really tough question. I honestly don't know, maybe 40%.

R - Good. Alright. So the national standards, they have the term physical literacy and that's a massive component that is taken into account when developing the standards. So SHAPE America defines physical literacy as the ability to move with competency and confidence in a variety of physical activities in multiple environments that benefit the healthy development of the whole person, based on personal experience and opinion. What percent of fifth grade students would you say are physically there and again, it kind of same thing in a sense, but looking at the competency and the competence.

E - Yeah, I mean, it is a similar question.

R – Yeah.

E - I don't I don't know. I mean, 40% might be that correct. I don't. I just think we have a population of kids that don't have a ton of knowledge about why it's important to be fit and aren't exposed to a lot of activity. So, I don't know that they could, like if they were asked to do things independently without guidance from others. I don't know. Maybe it is closer to 60%.

R - Okay.

E - So maybe 60% could handle things on their own. I don't know, it's a tough question.

R - Okay.

R - So, what do kids outside in the community have that can help them influences positive or negatively, of becoming physically literate?

E - If you're talking about this community? I am not 100% sure because I don't live in this community. I know what's offered in my community. I know that there's recreation. You know, Hamlin, Brockport, Sweden and Clarkson, so I know there's at least some recreation options for kids that live in our school district. Again, parents' ability to get them to these activities, I don't know.

R - So I didn't get to ask Tom, but over your career here in Phys Ed, have you seen the physical literacy levels increased, decreased, or change year to year?

E - 100%? Decrease!

R - Alright, we're going to change gears again. So, assessments wise, do you guys here currently assess your student's fundamental movement skills?

E - Yes.

R - How do you assess your students and are there any specific tools that you use?

E - We usually just use independent ones and ones of the K through 12 things that we've developed rubrics and different assessments that we use individually for each unit. So, it's more, you know, activity specific. And then if we have kids that, you know, we have identified as struggling, you know, we use a TGMD for a closer look at that.

R - So you kind of said that you assess pretty much all the skills and units you've done.

E - Yes, and all of our activities, you know, movement wise, and all of our physically active ones. So you know, obviously cooperative games, we're looking at different types of assessments but.

R - How often are you assessing them? Every week? End of the unit?

E - Um, usually a couple times throughout each unit. Each unit can last anywhere between two weeks to four weeks. So we'll usually pick whatever we think is the most. You know, whatever skill we're looking at, you know, what we like to see from that, you know, if it's soccer, you know, are they able to do you know, local motor movements? Are they able to track the ball or that you know, if whatever the activity is, we look for what we think is the most important thing in that activity.

R - So, have you ever heard of P.E. Metrics? It's a formal tool that follows national standards. Have you ever used it or considered using it?

E - No.

R - Alright, would you be interested? I know we've talked a little bit about like the ladders and everything that I've been doing. Would you be interested in using the Ladders to assess your

students skills in the future, kind of based on what you saw and the little that you know about it?

E - I don't know a ton about it. That's definitely true. I would have to know more about it to know if I would use it. But yes, I certainly I mean, if it's something that gives us a better picture, and I'm always willing to try something different.

R - Alright, so like I said, I'm using the Ladders to my thesis here. Within the document that was created, and this huge assessment tool. There are 16 different motor skills that have Ladders created for them. Each Ladder has nine rungs or steps that give objective progressions that each student can strive for, as they go up the ladder. So, an example and I know you've seen a bit of this. With kicking though, as the first rung says, "can kick a stationary ball without falling over." As you work up the ladder, rung fives is "kick a stationary ball a distance of 60 feet." And the ninth and top rung says, "kick a ball through the air at a distance of 60 feet." So, you know, my research and data, I was looking at kicking, throwing, striking and jumping rope. And that's kind of what I wanted to find out. So, I have the actual data. So, the 23 students that we had, after collecting the data, 22 out of 23 students could kick a ball of 60 feet a distance of 60 feet. What are your first thoughts on that?

E - I mean, that's surprising to me.

E - Um I mean, I guess that's probably what I would expect.

R - Alright.

E - But again, like we asked you before, parameter wise, like, I felt like we didn't have like, does it have to be straight? Like what about the kids that kicked it off to the right or left we were in an enclosed space so would that have counted if we were outside?

R - Right.

E - You know, I mean, so I guess I didn't really understand some of the parameters for this one.

R - Yeah. That makes sense. And that's something that moving forward and finding these things out is going to help.

E - I mean, are you looking at the kids able to produce that much force to get it that far? Or are you looking at accuracy? Like, did the ball have to be on the ground? Like, , I don't know, there's a lot.

R - Yeah, no, I got you.

R - So how important of a goal do you think it is? of kicking a ball? 60 feet, be honest.

E - Yes, kids should be able to step and kick without falling over for sure. I don't mean, it's probably not as important as some other things but.

R - Right. Looking into the future, what are some things you know, we could have done or perhaps done either in or out of school to get your students to reach that goal?

E - I mean, just more exposure to being able to practice that skill.

R - Alright. So looking at the striking with a racket. You had three out of 23 students who could strike a ball upwards continuously, alternating both sides of the racket six times. In a row, while staying inside of a pool. What are your first thoughts on this?

E - I'm not surprised by that. I think that's a difficult skill. Um, you're asking them to keep their feet inside a hoop. That's difficult, because I mean, you have to move sometimes, because the ball is not going to come off the racket, you know, directly above the racket. So I mean, there's they were restricted with movement. So, I think that's tough. Switching the racket, you know, up and down, I think is extremely difficult. I think they would have I don't know, I guess I'm not sure what you're looking at there.

R - How important will you think it is for this skill?

E - Um I mean, I think kicking a ball is more important than this skill. You know, should they have good hand-eye coordination, I mean, I think this would be better if the parameters been different.

R - Agree. As we look into the future. What do you think could have been done to increase this number?

E - I mean, probably my answer will be the same for all. Increased exposure and, you know, doing it from kindergarten, you know, it's not just thrown at them at a certain level. I think you have to build skills. So I think you have to continue to add more to it. So maybe at a higher level, adding more parameters and having it more open as you are lower, you know.

E - And that's kind of the whole point of our program too, is to add things you know, a bit more challenge as you progress through.

R - Alright, so jumping rope here. I had one out of your 23 students who could jump rope, a rope for 30 seconds.

E - This is a tough skill. Um, we don't do a lot of it. Throughout the school year. I think this you know, it's hard for kids to do one or two, let alone yeah, you know, 30 seconds is a long time. I think I would have a hard time not catching my foot for 30 seconds. And I just don't know how much exposure kids are getting to jump in and out on a consistent basis.

E - When combined with other two questions, did they have to have both feet on the ground? Did they have to alternate their feet? You know, some of them went forwards, some went back. It's just a really tough skill. So, I'm not surprised by the low.

R – Alright, last skill. We had 14 out of the 23 students who could throw a ball of 50 feet in the air. Any thoughts on that?

E - I mean, it's throwing is just as important as kicking. So I mean, they're all important skills, because there's things you won't be able to do if you can't get these basic skills down. Yep, you know, definitely limits what they can do on the future.

E - Am I surprised by that number? Probably not. Because I think that we've seen a huge decline in basic skills. Should it be higher? Yes, more exposure is necessary. Absolutely. But it can't be just the 40-minute exposure at school. That's the problem. Okay, the exposure is limited to the time that they have with us, because I think kids are not getting any exposure outside or very little exposure outside.

R – So, I'll go with that for now. Based on the data that was presented, how could you use this information as a PE teacher?

E - I mean, I just obviously if we're looking at these numbers, and they're low numbers, you know, we have to increase exposure to this now. The hurdle is time. And, you know, we can only do so much in the 40 minutes that we have them. You know, when we get to our school, it's hard to specifically focus on just the skills without adding more to it. So that's why we're having a difficult time here. We're not even able to do you know, you hope to you know, do things individually, add some things together with other kids, add a little bit of competition, more challenge and we can't even really do that as much anymore. We're going back down to teaching basic skills, right.

R - So understanding that this data, it may not be the most differentiated just due to the circumstance of being only here and all that stuff, but can you see using this information that you have when it comes to planning and curriculum.

E - I mean, yes and no, because I think we already know. I mean, we know what our kids are able to do. I mean, yes, this breaks it down and gives us a nice number and we can see it on paper and that's great. It doesn't change the fact that we are limited by time limited by a lot of different things. I mean yes, I think it's helpful to see.

R - Is there anything that you saw that surprised you?

E - I mean, I guess that the numbers are a little lower than I expected them to be. I'm not surprised by it, but when you see it as a big picture. It's definitely surprising but again, I just think kids aren't exposed to a lot of other things, you know. Like I said, kids don't play they don't come to school with the basic skills they're having to be taught and when it's limited time throughout their whole K-12 experience you can only do so much in that amount of time.

R - If we did this at a larger scale, say state to state, do you think results would be similar?

E - Today?

R - Yeah, here in the U.S.

E - Probably.

R - Do you think that there's a crisis today as a Phys ed teacher in the kids ability?

E - Oh, god? Yes. Absolutely. We talk about it every day.

R - Is there any other data that you would like to know about your students whether it's related to like movement skills or any other areas? Things that you've always been curious about. Having the actual numbers or physical results in front of you instead of just seeing?

E - I mean, we know this basic health information about some of our kids, we know nothing about what happens after they leave here. I mean, we can pretty much pick out the kids in our classes that we know are active outside of school. And we know the families and the kids that probably this is all they get. So I mean, knowing more about them after they leave us is the information that we don't know so I mean, other than that.

R - So with this study, do you think there's anything that you'd like to see done for future studies? That'd be interesting, like kind of like what I did. But you know, taking the next step.

E - I really would like to read more about the program to be honest with you, just to see how it's incorporated.

R - Last couple of questions here. So for the children that were successful, what do you think are some of the characteristics that they all share?

E - Family involvement, exposure to things outside of school, you know, individual drive to want, you know, they have some natural ability, and they're in situations where they're allowed to use that ability. I think, you know, in this high poverty area, it's I think a lot of kids are just not given the exposure to things. You know, we do what we can to offer our sunrise fitness so that everybody has the option to do that. So, we do have a decent amount of kids that do that. But I think that the families that are involved with prioritizing, health and wellness are you know, those are going to be the kids are able to do these things because they do them on a regular basis.

R - Flipping the script, there's anything the kids who weren't successful, some common characteristics between them?

E - Probably just low income, split families, you know, they're between two houses. So there they have no consistency even if maybe they had the financial ability to do it. Having consistency and not attending these things because they're split between two homes. Parents don't feel it's a priority. I mean, look, you walk around this building on, you know, conference day, not conference day, but like we had like a health and wellness day in the evening for kids. parent teacher conferences. I mean, you can see the obesity, walking around the building, you can see, you know, the poverty walking around the building. So, I mean, it's not surprising some

of this.

R - Alright, last question. Do you have any lingering thoughts you'd like to share regarding everything we talked about?

E - Like I said, this is a program I'd like to read more about, you know, I know Tom and I talked to you while we were doing this that I don't understand what information this is giving you when kids are coming in doing this. Like seeing a progression. Like I'd be interested if this was like a pretest, they had time to practice, and you came in and did a post test. I would like to see that. This is hard. It's this level that you did the test and is difficult. So, am I surprised by the low scores? Not at all? You know, I'd be anxious to see like if we focused on some of these things, and then you came back into the test again, how it would go.

R - Alright, well, that's all I have. So I appreciate everything. Thank you.

E - Thank you. Good luck with everything. I'm definitely reading up on it.

Appendix X: List of Initial Open Codes

1. Years taught
2. Grade level taught
3. Years of experience
4. Curricular goals
5. Overview of curriculum
6. Elementary P.E.
7. Team sports
8. Fitness
9. Lifetime sports
10. Individual sports
11. Outdoor activities
12. Problem solving
13. Cooperative games
14. P.E. goals
15. Increased activity
16. Wellness
17. Physical activity
18. Goal development
19. Social and emotional learning
20. Increased activity
21. Grow interest
22. State & National P.E. standards
23. Curriculum document
24. Fitnessgram
25. Class ability
26. Obesity
27. COVID
28. Increase technology
29. Goal development tool
30. Obesity
31. Lack of motor skills
32. Society
33. Lack of play
34. Hand-eye coordination
35. Limiting factors
36. Money
37. Community involvement
38. Recess
39. Lower test score
40. Nutrition
41. Organized activity
42. Outside sports
43. Summer camps

44. Academics
45. No physical activity
46. Motor skills
47. Physical literacy
48. Skill knowledge
49. Recreation
50. Assessment
51. Informal assessment
52. Skill based assessment
53. Standard-based grading
54. P.E. Metrics
55. More details
56. Skill versus product
57. Ladders to success
58. Kicking
59. Kicking results
60. Parameters
61. technique
62. Exploratory
63. Skill importance
64. Exposure
65. Future
66. Striking
67. Difficult skill
68. Change curriculum
69. Strict
70. Progression
71. Jumping rope
72. Throwing
73. Decline in skill
74. Fine motor skills
75. Different equipment
76. Different skill
77. Curriculum
78. Basic skills
79. Data importance
80. Sequence
81. Crisis
82. Decline in skill
83. Coordination
84. Cardiovascular fitness
85. Crisis
86. Family involvement
87. Outside play
88. Individual drive

89. Similar characteristics
90. Low fitness
91. Less physically active
92. Decline in sports
93. Opportunities

Appendix Y: List of Categories

This list shows which open codes fell into each category. The bold headers are the categories. The words or phrases under each bolded category are the open codes that are similar to create a given category.

School Based Curriculum
Curricular goals
Overview of curriculum
Elementary P.E.
P.E. goals
Goal development
Social & emotional learning
Curriculum document
State & National P.E. standards
Goal development tool
Change curriculum

Physical Activity
Team sports
Fitness
Lifetime sports
Individual sports
Outdoor activities
Problem solving
Cooperative games
Wellness
Increase activity
Physical activity
Grow interest

School Based Factors Influencing of Physical Activity
COVID
Increased Technology
Limiting factors
Exposure
Less physically active
Decline in sports
Society
Recess

Family Based Factors Influencing of Physical Activity
Money

Community involvement
Organized activity
Outside sports
Summer camps
Recreation
Family involvement
Outside play
Nutrition
Lack of play
Individual drive
Opportunities

Fundamental Motor Skills
Kicking
Skill importance
Striking
Difficult skill
Jumping rope
Throwing
Fine motor skills
Motor skills

Factors Affect Skill Performance
Technique
Progression
Different equipment
Lack of motor skills
Hand-eye coordination
Future

Assessment
Assessment
Informal assessment
Skill-based assessment
Standard-based assessment
P.E. metrics
Skill versus products
Ladders to success
Parameters

Appendix Z: Breakdown List of Categories with Transcribed Interviews

This list shows which open codes fell into each category. The bold headers are the categories. Each header has the pieces of the transcribed interview which fall under the specific categories.

List of Categories

1. Physical Education Curriculum & Curriculum Goals
2. Physical Activity & Impact on Fundamental Motor Skills
3. Skill Based Performance and The Use of Physical Education Assessment Tools

Physical Education Curriculum & Curriculum Goals

> ***R*** *- Alrighty, so looking at the curricular goals, can you give me an overview of the activities and units found in your K through five curriculum here in Brockport?*
>
> ***E*** *- Our entire curriculum?*
>
> ***R*** *- Just a couple of main ones I guess.*
>
> ***E*** *- Okay, um, we do team sports, so like are you looking for specific sports? We do team, you know, team sports, pillow polo. We do football, we do soccer, we do lacrosse. We do you know baseball and softball. We do volleyball and then we have a pretty extensive fitness unit where we break it down into fitness, testing and just fitness in general. We do lifetime sports. We do outdoor activities, you know, like Kan Jam you know, outdoor your games. What else? We play cooperative games. We do a big cooperative game. We can focus on those life skills.*
>
> ***R*** *- Already. So looking at the curriculum, can you give me an overall and an overall view or overview of the units and activities found in your K through five curriculum and you can talk about just you know, the school here, fourth and fifth is fine as well.*

T *- Yep. So here, we do kind of a wide variety of activities. So things from team sports to some life skill things to different types of individual sports. So typically, we start the year doing football and soccer in the fall, and then we'll transition to some different types of cooperative games, things that require students to work together, think about some strategy, problem solve through different types of games. In the winter, we'll hit swimming is a big unit for us, as well as badminton, basketball. So, we have some individual sports and some team sports in there. We also do things like pillow polo, team handball, and then once we get outside in the spring, it's outdoor games, and wiffle ball softball, baseball, those type of games.*

R *- Alrighty, so looking at the curricular goals, can you give me an overview of the activities and units found in your K through five curriculum here in Brockport?*

E *- Our entire curriculum?*

R *- Just a couple of main ones I guess.*

E *- Okay, um, we do team sports, so like are you looking for specific sports? We do team, you know, team sports, pillow polo. We do football, we do soccer, we do lacrosse. We do you know baseball and softball. We do volleyball and then we have a pretty extensive fitness unit where we break it down into fitness, testing and just fitness in general. We do lifetime sports. We do outdoor activities, you know, like Kan Jam you know, outdoor your games. What else? We play cooperative games. We do a big cooperative game. We can focus on those life skills.*

R *- What would you say are the main goals of the PE program here at the Hill School that you have for students and what would be like for them to accomplish by the time they leave?*

E *- For me, it's getting them moving. So increased activity. Second, is for them to have an appreciation and understanding of just overall wellness. You*

know, how activity fits in with that and how nutrition fits. In with it, how you know, just exercise in general, how sleep fits within our life. Just finding lifetime habits fit in with that. So, they get just an overall picture of what wellness looks like. Those are probably the main things movement, wellness, and enjoyment and hopefully like identifying things that they like and enjoy and are good at. So, you can kind of prompt them to get involved in other ways.

R *- So who developed these goals? And then if it was someone else did you have a chance to help out or kind of recreate these? I know you've been here for a while.*

E *- I mean, we usually follow New York state and national PE standards. So, we were guided by that. And then, you know, we work together as a K-12 department to, you know, be specific and how we're offering them you know, so it's kind of holistic, K-12.*

R *- Cool! A lot of good stuff there. All right, so what would you say are the main goals of the PE program here that you have with your students that you want them to accomplish by the time they leave school?*

T *- Yes. So, I think the main goal is to have safe participation, right. So when kids come into Phys Ed, they should feel safe, not only in what we're doing an activity physically, but also emotionally and mentally with their classmates and how we approach Phys Ed. And I guess the main goal here, is leaving fourth and fifth, is we hope to kind of give them a little bit of an interest in some different activities that they hopefully look to pursue outside of Phys Ed, where they can kind of build some habits for lifelong fitness and physical education. Whether that be through outside teams, or maybe a love of some sort of fitness or running whatever it may be. I'm trying to give them the tools to be able to pursue those things. And then hopefully some of the skills that we cover, things like striking and*

throwing and kicking, translate over into the other grades where they kind of have that prerequisite going into the middle school, which it is a little bit more heavily based on team sports.

***R** - Do you know or do you or the school use any specific documents or resources to aid in the process or the development of these goals?*

***T** - Yeah, we do we use the….*

***R** - The curriculum document?*

***T** - Yeah, the curriculum document from I believe, NYSAHPERD. That is what we've been typically using over the past few years to kind of help develop goals in each unit. So, if we're doing like a soccer unit, you know, yeah, we want to teach the game of soccer. And some of the rules and strategies, but we also want to try and meet some of those goals in terms of kicking and receiving and things like that. You know, same thing with say, a sport like badminton, like, yeah, we're teaching the sport so kids can play it, but we also want to make sure that we look at that curriculum document. Fourth and fifth graders should be able to strike in this way and try and hit some of those goals as well. So, using that curriculum document is really the big one that we use, to help develop what we do.*

***R** - I know you said that you use the national and state standards. Are there any other specific documents that you guys use to aid in the development of these goals?*

***E** - Well Fitnessgram. We utilize the Fitnessgram for fitness testing.*

***R** - So this one might not apply the best. But is there anything you think can get done to have more kids do it and for us right now we know that 20 to 23 which is almost everyone. I wish I could remember exactly what happened with that ones who didn't make it.*

T *- Um, you know, if I just take the 20 out of the 23 and if I'm looking at, you know, regardless if they made it, you know, I try to analyze everything regardless, they just made the 60 feet you know, I think something that we can do you know, we do a soccer unit, we do some different types of kickball games, but you know, I would think that if you just do it once or twice a year with kicking stuff. Maybe that kind of activity, don't get that the repetition so maybe at certain times throughout the year throwing in some different types of kicking games. Whether it be some skill work in kicking, whether it be for one or two classes, just to keep kids fresh with anything. Whether it be throwing or kicking or, or striking where you're just, you know, we're not going to do any type of game, but we're just going to work on our technique of striking, you know, a couple times throughout the year so we're always revisiting it. They can just focus on the skill of striking as opposed to striking. So, maybe having more just days where we're incorporating throughout the year and sprinkling in just basic skill-based progression days could be something that could help some of the you know. I know we got a pretty good outcome here, but you know, that they'd have outcomes thinking about technique. I mean, I'm sure a lot of those kids didn't have the greatest of technique. So, you know, maybe that if we did you know, maybe that we got that 23 out of 23. So, outside of school that's going to come to hopefully giving kids more opportunities to do things like soccer and different types of where they go to the Rec Center and play kickball but in school I think if we could, you know a couple days a year sprinkle in kind of some of these skill based days think that would help just keeping kids getting repetition so they don't forget how to do those things.*

R *- Okay, good. If there's anything you'd like to add on, I know we asked this question with kicking. Is there anything that in the future could change or be done differently to get those students closer to the school?*

T *- You know, we do some badminton that's about it. So we don't do a ton of racquet sports, especially with those type of balls so I you know, when we incorporate some different types of racquet sports like a pickleball or something into our curriculum, where maybe we're striking different objects in different planes. I think this would definitely help in that regard, as we only do badminton now using a long-handled implement from a using a different type of implement, you're striking that birdie as opposed to that ball. So I think if we maybe incorporate a few more racquet based activities into our curriculum that could help a little bit and again, outside of school, you know, it's just going to be kids seeking out some opportunities to, to get on different courts and play you know, whether it's, you know, tennis or pickleball, or badminton, which is not those are not typically the easiest sports for young kids to seek out. But yeah, I think for here if we maybe incorporate a few more racquet sports, you know, that could definitely help them just getting familiar with different implements and striking.*

R *- Alright, so we're kind of looking at the data that I gave you. So based on the data represented or results presented, how would you use this information as a PE teacher.*

T *- Okay. Yeah, I think you know, if you're looking at the results, I think it shows that there's definitely a need in some areas, especially jumping rope and striking. Kicking seems to be pretty successful. Add maybe another type of striking unit. You have to add like a pickleball unit or something like that and maybe adding a jump roping unit or a mini unit that requires jump roping with some progressions. You know, we talked about throwing you know, that's going to, you know, to get thrown in the kicking things we typically do teach and do a pretty good job at but again, maybe adding a couple more using these, Alright, so that has to be one of our goals now being able. Alright, these guys at the end of the soccer usually kick a ball 60 feet on the ground. Alright, when throwing, I want to get the ball*

higher, I got to release a little bit higher and things like that. So, you can use it to kind of drive your curriculum a little bit and also your goals because now you can see where there's a need for certain things significantly and where some things are pretty good, but their errors you can do better. So.

***R** - Alrighty, so looking at the curricular goals, can you give me an overview of the activities and units found in your K through five curriculum here in Brockport?*

***E** - Our entire curriculum?*

***R** - Just a couple of main ones I guess.*

***E** - Okay, um, we do team sports, so like are you looking for specific sports? We do team, you know, team sports, pillow polo. We do football, we do soccer, we do lacrosse. We do you know baseball and softball. We do volleyball and then we have a pretty extensive fitness unit where we break it down into fitness, testing and just fitness in general. We do lifetime sports. We do outdoor activities, you know, like Kan Jam you know, outdoor your games. What else? We play cooperative games. We do a big cooperative game. We can focus on those life skills.*

***R** - Already. So looking at the curriculum, can you give me an overall and an overall view or overview of the units and activities found in your K through five curriculum and you can talk about just you know, the school here, fourth and fifth is fine as well.*

***T** - Yep. So here, we do kind of a wide variety of activities. So things from team sports to some life skill things to different types of individual sports. So typically, we start the year doing football and soccer in the fall, and then we'll transition to some different types of cooperative games, things that require students to work together, think about some strategy, problem solve through different types of games. In the winter, we'll hit swimming is a big unit for us, as well as badminton, basketball. So, we*

have some individual sports and some team sports in there. We also do things like pillow polo, team handball, and then once we get outside in the spring, it's outdoor games, and wiffle ball softball, baseball, those type of games.

***R** - What would you say are the main goals of the PE program here at the Hill School that you have for students and what would be like for them to accomplish by the time they leave?*

***E** - For me, it's getting them moving. So increased activity. Second, is for them to have an appreciation and understanding of just overall wellness. You know, how activity fits in with that and how nutrition fits. In with it, how you know, just exercise in general, how sleep fits within our life. Just finding lifetime habits fit in with that. So, they get just an overall picture of what wellness looks like. Those are probably the main things movement, wellness, and enjoyment and hopefully like identifying things that they like and enjoy and are good at. So, you can kind of prompt them to get involved in other ways.*

***R** - Cool! A lot of good stuff there. All right, so what would you say are the main goals of the PE program here that you have with your students that you want them to accomplish by the time they leave school?*

***T** - Yes. So, I think the main goal is to have safe participation, right. So when kids come into Phys Ed, they should feel safe, not only in what we're doing an activity physically, but also emotionally and mentally with their classmates and how we approach Phys Ed. And I guess the main goal here, is leaving fourth and fifth, is we hope to kind of give them a little bit of an interest in some different activities that they hopefully look to pursue outside of Phys Ed, where they can kind of build some habits for lifelong fitness and physical education. Whether that be through outside teams, or maybe a love of some sort of fitness or running whatever it may be. I'm trying to give them the tools to be able*

to pursue those things. And then hopefully some of the skills that we cover, things like striking and throwing and kicking, translate over into the other grades where they kind of have that prerequisite going into the middle school, which it is a little bit more heavily based on team sports.

Physical Activity

R *- Good. Alright. So the national standards, they have the term physical literacy and that's a massive component that is taken into account when developing the standards. So SHAPE America defines physical literacy as the ability to move with competency and confidence in a variety of physical activities in multiple environments that benefit the healthy development of the whole person, based on personal experience and opinion. What percent of fifth grade students would you say are physically there and again, it kind of same thing in a sense, but looking at the competency and the competence.*

E *- Yeah, I mean, it is a similar question.*

R *– Yeah.*

E *- I don't I don't know. I mean, 40% might be that correct. I don't. I just think we have a population of kids that don't have a ton of knowledge about why it's important to be fit and aren't exposed to a lot of activity. So, I don't know that they could, like if they were asked to do things independently without guidance from others. I don't know. Maybe it is closer to 60%.*

R *- So for the kids who are meeting the expectation, why do you think that is?*

T *- I think it's exposure at young age to different types of whether it be outside sports teams. I know, I kind of come back to you know, family values, you know, where their family values on physical activity, and is that something that they make time for and are you know. I think even more importantly is that as are our parents, our kids seeing their*

parents being physically active, physically healthy, you know, when kids are young at this age. Talking about nutrition, they can barely make their own food right. So that's the parents preparing healthy meals. Is it the easiest thing to throw some process on the table and be done with it. And, you know, I think that a lot of that again, and what kids do outside you know, are you playing with your friends outside doing activities or are you not playing with your friends, but you're seeing them on the computer playing different types of you know, these online games. So yeah, I think that's, that's a big thing. You know, we can come in here and we can have students that you know, we can teach the greatest Phys Ed program in the world, but if they leave here and the only physical activity and the only time that they're, you know, throwing a ball or striking a badminton birdie, is in Phys Ed, they're not going to get the skills. It's not really going to be making headway. So, the kids that seem to do these things outside of that, I think are the ones we're seeing that are being more physically literate, and it's not even the ones that are doing organized activities to be organized. It's, you know, kids aren't just playing those pickup games anymore. And, I think, you know, it comes back to that, and I think it really all comes back to what's valued in the home. You know, I think that's the more the more I hear, the more I you know, realized that it comes back to home life and sometimes teacher, there's nothing you can can't really do much about that you do what you can in school, but, you know, sometimes that the home life is always going to make that blockade of why we're maybe seeing this trend that obesity and kids are being physically literate and kids aren't having the skills and tools to be able to do different activities.

R *- Yeah. Okay. Alright, so last question I have is do you have any lingering thoughts on that you'd like to share regarding everything we've talked about things you've seen, lingering last second thoughts or questions?*

T *- Um, no, I think that we covered I mean, they*

said that the data is good. It's eye opening in that. You know, we definitely, you know, we're seeing a decline I wish we had data like this from you know, the tests, you know, five, six, seven years ago, or even, you know, pre COVID to now. To have something to compare to, because I just think that we're definitely seeing a drastic transition of kids that are less physically active, less physically literate. Well, less could be bothered about physical activity where, you know, you hate to say sometimes it's, it's looked down upon for being physically active and being healthy, you know, and I think that we're definitely shifting away from that where we got to, we got to somehow turn the needle the other way and you know, maybe if kids and their parents saw, you know, some of this information, you know, we used to give out fitness test reports. And, you know, parents didn't like to see that their kid couldn't do a push up, or, you know, we used to give out height and weight. And parents didn't like to see that their kid was overweight. So, we'd always get the emails and we stopped doing that portion of it because it was more trouble than it was worth but, you know, because I think sometimes parents know but they don't want to see it. They don't want to, or they don't want to believe it. So somehow finding a way to be yes, to be sensitive to the situation because for a lot of families it can be, but finding ways to show families Hey, we're not meeting this standard kid can't do some of these skills, your kids not physically fit. And then you know, maybe it's our job. Maybe as teachers to jumpstart some sort of a plan for them. We can't do it all right, but they will just say hey, these are some steps that you can take moving forward to hopefully, you know, get your kid trending in the right direction. But you know, we're definitely seeing that transition. And, you know, it's sad and I hope that you know, some of these tests and things and as we get further away from maybe COVID, it brings that to light, we can kind of get back to how it used to be or just getting somewhere you know, being physically fit and physically active is a priority where now it just doesn't seem like it as much you know. We're seeing in athletics too. Kids

don't want to do athletics anymore. It's, you know, there's easier things kids can do that, that you know. We are losing kids in athletics where you know, numbers are down and also across all sports teams you know, and that's going to hurt. I coach like wrestling, that's a pretty physically demanding sport. I'm like, you know, I look at a sport like football to hear where the numbers are low and footballs. A big sport like where are we going to be in five years from now with our numbers if we're losing kids now? So, we got to find a way I think to shift the needle the other way and hopefully getting some good data and assessments and they're bringing to light you know, this is what we're looking at is a good start. Yeah.

R *- Yeah, definitely get that. Alright, so changing gears here a little bit. We're hear in society about an obesity crisis with kids and many believe that kids today don't have the prerequisite motor skills to lead to physically active and enjoyable lives. Along with that, they don't, or they won't have the skills to stay physically active throughout their lifetime. Would you agree with that opinion? For kids overall in society today?*

T *- I think, um, if you were to ask me this five years ago, six, seven years ago, I would have said maybe, but I think over the past two or so years, I would definitely agree with that statement, and I think we're definitely seeing a transition, whether it be post COVID. Whether it be the increase in technology, but I think that we're definitely seeing that lack of in the prerequisite motor skills and maybe just this the ability and knowledge to live healthy, healthier lives, active lives.*

R *- And why would you say this anything specific?*

T *- I think you just kind of see, you know, when you're doing fitness testing, you kind of look at some of the scores where, you know, a couple years ago you would see the scores were definitely higher. They were more within that healthy range. And, you know, we're definitely seeing scores that are much*

lower if some kids can't even perform the test. And you know, when you're looking at some of the motor skills, things like throwing and catching and striking. A lot of students just have a very, very hard time of doing those skills. Skills that typically kids come in, even if they don't necessarily play sports and things outside of school or organized sports, they could typically do fairly well. And I think we're just seeing that lack of play. Kids aren't going out and playing any more and playing outside and playing a pickup basketball game or, you know, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just playing into more of a technological age, you know, post COVID, which I think that that's definitely contributing to that problem that we're seeing here.

R *- Yeah. Okay. Alright, so last question I have is do you have any lingering thoughts on that you'd like to share regarding everything we've talked about things you've seen, lingering last second thoughts or questions?*

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R *- So for the kids who are meeting the expectation, why do you think that is?*

T *- I think it's exposure at young age to different types of whether it be outside sports teams. I know, I kind of come back to you know, family values, you know, where their family values on physical activity, and is that something that they make time for and are you know. I think even more importantly is that as are our parents, our kids seeing their parents being physically active, physically healthy, you know, when kids are young at this age. Talking about nutrition, they can barely make their own food right. So that's the parents preparing healthy meals. Is it the easiest thing to throw some process on the table and be done with it. And, you know, I think that a lot of that again, and what kids do outside you know, are you playing with your friends outside doing activities or are you not playing with your friends, but you're seeing them on the computer playing different types of you know, these online games. So yeah, I think that's, that's a big thing. You know, we can come in here and we can have students that you know, we can teach the greatest Phys Ed program in the world, but if they leave here and the only physical activity and the only time that they're, you know, throwing a ball or striking a badminton birdie, is in Phys Ed, they're not going to get the skills. It's not really going to be making headway. So, the kids that seem to do these things outside of that, I think are the ones we're seeing that are being more physically literate, and it's not even the ones that are doing organized activities to be organized. It's, you know, kids aren't just playing those pickup games anymore. And, I think, you know, it comes back to that, and I think it really all comes back to what's valued in the home. You know, I think that's the more the more I hear, the more I you know, realized that it comes back to home life and sometimes the teacher, there's nothing you can can't really do much about that you do what you can in school, but, you know, sometimes that the home life is always going to make that blockade of why we're maybe seeing this trend that obesity and kids are being physically literate and kids aren't having the skills and tools to be able to do different activities.*

R *- Well, so what are some things, I know you have a bit of a role here in the community, and in the school, but what are some things that kids do in the community? Outside of Phys Ed class that may influence whether they are physically literate or not and you know positive negatively?*

T *- Yep. So positively, you know here and you know, we will post any type of outside sports clinic that we get for whatever team it is in different types of organizations. Whether it be football, wrestling, lacrosse, you know, baseball, kind of the basketball things that we see, we post. We make sure we announce to the kids, which I think kids get very interested in that. I think we're seeing, hopefully, you know, that's just pushing kids where maybe they can't find or they're not really sure where to get this information from. So hopefully our part and giving it to them in class, you know, Sweden Rec has great programs. They're one where the kids take advantage of. If there's organizations, I would like to see more. I think a good thing that some communities do that I don't think we necessarily do here, is just doing some sort of outside summer camp. I want us to get like a daycare, good days camp where kids can come to the school and you can just set up you know, different games and kids play different games outside and there's nothing that is too much pressure where it's competitive. And you can do things like kickball, you can set up badminton inside. You can use the playground; you can sit up football where kids just can be kids can just do some sort of organized structured sports but it's not that competitiveness that I think maybe kids shy away from. But you know, I think that the positive is, you know, we have a lot of community activities and things that kids can do. I think it's just getting kids involved and doing that and hopefully, by us promoting it here and then maybe we can spark some interest in some of the units that we do. I think the negative influence is just going to be again, a lot of it is maybe kids not knowing where to find it. I think sometimes going digital hurts because everything we have to do is putting us on*

the computer. So sometimes if a website's not super user friendly, or maybe they don't have access to internet in the home, which is a really big possibility, they can't get that information. And I do think that again, the big increase in technology is the fact that schools are putting so much more of an emphasis on kids being on computers and using technology is hurting. I can't tell you the times I've come into Phys Ed and the kids are talking about their fortnight match from the night before. So, one o'clock in the morning, you know, it's not even just here. It's you know, it's adults that do it too. We put so much emphasis on kids being, you know, computer literate because, you know, another pandemic and this and that but it's also hurting us in that kids are in front of a screen all day and they go home, they get to be in front of a screen all day. So that's the negative stuff in the community is the fact that we are pushing so much technology where yes, maybe it makes things easier and there's good to, but in terms of physical fitness and activity, a computer can't get you physically fit so.

R *- Okay, flipside of that kind of answered a little bit, but do you think you could guess and find any similarities? Could you even say a couple of similarities if you'd like between the children who were not as successful?*

T *- I think a lot of it's going to be no. I think if you're looking at fitness is probably going to be a big part of it. You're going to look at the kids who don't know whether they choose not to or they don't have access to or maybe the parents or whoever isn't taking care of them. They might not be involved in that regard of doing outside types of organizations and sports and stuff that might not be the priority. You know, kids when they're playing outside on the playground, they're not playing the pickup football or you know, using the monkey bars, but they're kind of, you know, sitting you know, sitting down doing stuff on their phones and computers as opposed to being outside and playing so. So yeah, I think that you're going to see the similarities of the kids that just, they're doing more*

you know, more screen time you know, less time outside. The amount of kids that you know, I'm playing you know, video games, it's like, where the other the other kids were getting outside doing something. So, I'm sure I'm sure you're going to see the similarities and go to the playground you told me to point out, kids that did it kids that did and I'm sure that, you know, I could point out point that out to you.

R *- Alright, so we hear about in there is an obesity crisis with kids and they believe that kids today don't have the prerequisite motor skills that lead to living physically active lifestyles. Along with that, they may or may not have the abilities and skills to stay physically active for a lifetime. Is that something you would agree with for kids overall today in society? What would you think these reasons are?*

E *- Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did. You know, back in the day, I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible. I think that's a factor. I think, safety in general, parents are a little bit more concerned about safety, so they're not as likely to let kids go out and play. There's a lot of factors that contribute.*

R *- Flipping the script, there's anything the kids who weren't successful, some common characteristics between them?*

E *- Probably just low income, split families, you know, they're between two houses. So there they have no consistency even if maybe they had the financial ability to do it. Having consistency and*

not attending these things because they're split between two homes. Parents don't feel it's a priority. I mean, look, you walk around this building on, you know, conference day, not conference day, but like we had like a health and wellness day in the evening for kids. parent teacher conferences. I mean, you can see the obesity, walking around the building, you can see, you know, the poverty walking around the building. So, I mean, it's not surprising some of this.

R *- Gotcha. So, I know that you've had a little bit of experience with what I've shown you and what the kids did, things like that. And that's the Ladders to Success assessment tool. That's kind of what my whole thesis is about. So based on what you've seen, is that something that you may have interest in using with your students in the future and I know that we'll talk about some of the data here in a few minutes. But any interest in using that and then just why and why not?*

T *- Yeah, I think so. I think we're always looking to try and find a good way to formally assess our students as long as it it's, it's feasible I think in a setting where you have maybe 20 kids and you're just doing one class that everything seems great, but when you have 50 kids in a class, you have 40 minutes, you know, limited on time. Limited on equipment. I think that that makes it tough. So any type of assessment that seems to kind of meet those realistic barriers that we sometimes we see in Phys Ed. We would love to use I think that you know, before I would use a couple of you know, as we're going to dive into some of the research here, just, you know, what are some of the ladders, you know, lower, higher? And what are some of the reasons for some of the tests being used, like, where's the research? Why this one seems to be, you know, what we're using as opposed to something else and you know, and again, more, I guess, more in depth on how it's used, okay, that would be something to look into. But again, if it, you know, works well and meets realistically what we can do, and it's got*

some good validity and reliability to it. Yeah, absolutely I would think about using it.

R *- Yeah. Alright. So how important would you say this skill and this goal is of striking the ball consistently, alternating both sides six times in a row inside of hula hoop? I know is this that something that doesn't happens typically in sports or something that is, this is kind of a more specific skill and activity?*

T *- Yeah. So, I think if you're looking specifically at the skill, probably not incredibly important, but if you're looking at the hand eye coordination and being able to judge force and how hard or soft to hit the ball, being able to orient your body and by staying in the hoop and knowing where you are. I think that that's incredibly important. I mean, are a lot of things that we do work on fine motor skills and gross motor skills, not just you know, for Phys Ed and sports, we have things that we do in the real world. So yeah, the specific thing, we're hitting the racquet, probably not, but if we're looking at what we're trying to hopefully measure and that's some gross motor skills, some coordination, and they got to work on some balance. I think it is incredibly important. And I you know, I think that students should, you know, be able to, to do this, you know, we were having some students who would hit it once and it would go flying or you know, we'd have some students that can do the six, but I would like to see us hopefully get more in the future. And again, that's a lot of the, again, judging force, how hard and soft to hit stuff. So, all those things are I think are important in what you're trying to measure. I just, you know, getting the skill not so much but what we're trying to measure is pretty important. So.*

R *- Okay. Do you think that this data is worth having and collecting? Or do you think that it's not very telling of the physical literacy levels for fifth grade students?*

T*- I don't think it's not worth having. I think that*

some of the data, I think it's finding out maybe almost having more. Start at the bottom of the of the ladder a little bit more and start with some easier skills and then work your way up to kind of see where, alright, this is where we're starting to lose kids. Whereas if we started at step one, okay, majority could do 1, 2, and 3 kind of working through it. Now we can see where the breakdown is a little bit more a little bit more meaningful because they've also had that right warm up period. You know, same thing with some of the other skills, you know, starting kind of at the bottom and then almost trying to hit those steps and more of a sequence. So, then you can get to the point where right, well this is where we're breaking down the striking where we're alternating palm up, palm down, well, okay, so now we can kind of go from there. So, I don't think it's not worth having and collecting as long as that were, you know starting at the right level or even starting below where we think we should and then working to a level that's tougher.

R *- Right. Looking into the future, what are some things you know, we could have done or perhaps done either in or out of school to get your students to reach that goal?*

E *- I mean, just more exposure to being able to practice that skill.*

R *- Agree. As we look into the future. What do you think could have been done to increase this number?*

E *- I mean, probably my answer will be the same for all. Increased exposure and, you know, doing it from kindergarten, you know, it's not just thrown at them at a certain level. I think you have to build skills. So I think you have to continue to add more to it. So maybe at a higher level, adding more parameters and having it more open as you are lower, you know.*

E *- And that's kind of the whole point of our*

program too, is to add things you know, a bit more challenge as you progress through.

E *- Am I surprised by that number? Probably not. Because I think that we've seen a huge decline in basic skills. Should it be higher? Yes, more exposure is necessary. Absolutely. But it can't be just the 40-minute exposure at school. That's the problem. Okay, the exposure is limited to the time that they have with us, because I think kids are not getting any exposure outside or very little exposure outside.*

R *– So, I'll go with that for now. Based on the data that was presented, how could you use this information as a PE teacher?*

E *- I mean, I just obviously if we're looking at these numbers, and they're low numbers, you know, we have to increase exposure to this now. The hurdle is time. And, you know, we can only do so much in the 40 minutes that we have them. You know, when we get to our school, it's hard to specifically focus on just the skills without adding more to it. So that's why we're having a difficult time here. We're not even able to do you know, you hope to you know, do things individually, add some things together with other kids, add a little bit of competition, more challenge and we can't even really do that as much anymore. We're going back down to teaching basic skills, right.*

R *- So understanding that this data, it may not be the most differentiated just due to the circumstance of being only here and all that stuff, but can you see using this information that you have when it comes to planning and curriculum.*

E *- I mean, yes and no, because I think we already know. I mean, we know what our kids are able to do. I mean, yes, this breaks it down and gives us a nice number and we can see it on paper and that's great. It doesn't change the fact that we are limited by time limited by a lot of different things. I mean yes, I think it's helpful to see.*

R *- Last couple of questions here. So for the children that were successful, what do you think are some of the characteristics that they all share?*

E *- Family involvement, exposure to things outside of school, you know, individual drive to want, you know, they have some natural ability, and they're in situations where they're allowed to use that ability. I think, you know, in this high poverty area, it's I think a lot of kids are just not given the exposure to things. You know, we do what we can to offer our sunrise fitness so that everybody has the option to do that. So, we do have a decent amount of kids that do that. But I think that the families that are involved with prioritizing, health and wellness are you know, those are going to be the kids are able to do these things because they do them on a regular basis.*

R *- So this one might not apply the best. But is there anything you think can get done to have more kids do it and for us right now we know that 20 to 23 which is almost everyone. I wish I could remember exactly what happened with that ones who didn't make it.*

T *- Um, you know, if I just take the 20 out of the 23 and if I'm looking at, you know, regardless if they made it, you know, I try to analyze everything regardless, they just made the 60 feet you know, I think something that we can do you know, we do a soccer unit, we do some different types of kickball games, but you know, I would think that if you just do it once or twice a year with kicking stuff. Maybe that kind of activity, don't get that the repetition so maybe at certain times throughout the year throwing in some different types of kicking games. Whether it be some skill work in kicking, whether it be for one or two classes, just to keep kids fresh with anything. Whether it be throwing or kicking or, or striking where you're just, you know, we're not going to do any type of game, but we're just going to work on our technique of striking, you know, a couple times throughout the year so we're always revisiting it. They can just focus on the skill of*

striking as opposed to striking. So, maybe having more just days where we're incorporating throughout the year and sprinkling in just basic skill-based progression days could be something that could help some of the you know. I know we got a pretty good outcome here, but you know, that they'd have outcomes thinking about technique. I mean, I'm sure a lot of those kids didn't have the greatest of technique. So, you know, maybe that if we did you know, maybe that we got that 23 out of 23. So, outside of school that's going to come to hopefully giving kids more opportunities to do things like soccer and different types of where they go to the Rec Center and play kickball but in school I think if we could, you know a couple days a year sprinkle in kind of some of these skill based days think that would help just keeping kids getting repetition so they don't forget how to do those things.

R *- Yeah, yeah. Okay, last one for this section here. Anything that as you look into in the future that could use to help increase this and maybe it would have been done differently in school to help your students reach or get close to the rung five goal of throwing,*

T *- You know, we may be similar to kicking but we do a lot more throwing and kicking here just in different games. We throw a lot of different objects and implements and things like that. So, I think we do a pretty good job covering throwing technique. Again, maybe doing some specific skill-based days or just focus on the skill of throwing whether it be for distance or for accuracy or for technique, where it's not putting to game context, but I think a lot of that's going to come back to kids doing these things when they're outside of school to you know, play is important. Playing in outside organizations and things like that. If that's something they want to do, I think that we have to do more of it outside of it. I think we do a good job of throwing through to a ton of throwing games and cover that a lot. It's going to come down to kids can get in those repetitions, maybe outside of school, whether they're playing*

with friends are doing different things that involve throwing, okay.

R *- What about here at school? What are any things that maybe limiting students from getting those levels of physical activity?*

E *- Within the school community?*

R *- Yeah.*

E *- Like as far as teachers not taking them out to for recess. I think that there's so much pressure academically on meeting you know, reaching certain minutes of academics that you don't see the longer recesses. You don't see the focus on getting up and moving. So, I think a lot of these kids, they come in and they have PE twice, maybe three times a week, and that might be the only activity that get in a day. If you have some teachers that really focus on getting kids up and moving and that's awesome. But not everybody does.*

R *- Alright, so we hear about in there is an obesity crisis with kids and they believe that kids today don't have the prerequisite motor skills that lead to living physically active lifestyles. Along with that, they may or may not have the abilities and skills to stay physically active for a lifetime. Is that something you would agree with for kids overall today in society? What would you think these reasons are?*

E *- Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did. You know, back in the day, I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible. I think*

that's a factor. I think, safety in general, parents are a little bit more concerned about safety, so they're not as likely to let kids go out and play. There's a lot of factors that contribute.

R *- So, what do kids outside in the community have that can help them influences positive or negatively, of becoming physically literate?*

E *- If you're talking about this community? I am not 100% sure because I don't live in this community. I know what's offered in my community. I know that there's recreation. You know, Hamlin, Brockport, Sweden and Clarkson, so I know there's at least some recreation options for kids that live in our school district. Again, parents' ability to get them to these activities, I don't know.*

R *- Is there any other data that you would like to know about your students whether it's related to like movement skills or any other areas? Things that you've always been curious about. Having the actual numbers or physical results in front of you instead of just seeing?*

E *- I mean, we know this basic health information about some of our kids, we know nothing about what happens after they leave here. I mean, we can pretty much pick out the kids in our classes that we know are active outside of school. And we know the families and the kids that probably this is all they get. So I mean, knowing more about them after they leave us is the information that we don't know so I mean, other than that.*

R *- Well, so what are some things, I know you have a bit of a role here in the community, and in the school, but what are some things that kids do in the community? Outside of Phys Ed class that may influence whether they are physically literate or not and you know positive negatively?*

T *- Yep. So positively, you know here and you know, we will post any type of outside sports clinic that we get for whatever team it is in different types of*

organizations. Whether it be football, wrestling, lacrosse, you know, baseball, kind of the basketball things that we see, we post. We make sure we announce to the kids, which I think kids get very interested in that. I think we're seeing, hopefully, you know, that's just pushing kids where maybe they can't find or they're not really sure where to get this information from. So hopefully our part and giving it to them in class, you know, Sweden Rec has great programs. They're one where the kids take advantage of. If there's organizations, I would like to see more. I think a good thing that some communities do that I don't think we necessarily do here, is just doing some sort of outside summer camp. I want us to get like a daycare, good days camp where kids can come to the school and you can just set up you know, different games and kids play different games outside and there's nothing that is too much pressure where it's competitive. And you can do things like kickball, you can set up badminton inside. You can use the playground; you can sit up football where kids just can be kids can just do some sort of organized structured sports but it's not that competitiveness that I think maybe kids shy away from. But you know, I think that the positive is, you know, we have a lot of community activities and things that kids can do. I think it's just getting kids involved and doing that and hopefully, by us promoting it here and then maybe we can spark some interest in some of the units that we do. I think the negative influence is just going to be again, a lot of it is maybe kids not knowing where to find it. I think sometimes going digital hurts because everything we have to do is putting us on the computer. So sometimes if a website's not super user friendly, or maybe they don't have access to internet in the home, which is a really big possibility, they can't get that information. And I do think that again, the big increase in technology is the fact that schools are putting so much more of an emphasis on kids being on computers and using technology is hurting. I can't tell you the times I've come into Phys Ed and the kids are talking about their fortnight match from the night before. So, one o'clock in the morning, you know, it's not even just

here. It's you know, it's adults that do it too. We put so much emphasis on kids being, you know, computer literate because, you know, another pandemic and this and that but it's also hurting us in that kids are in front of a screen all day and they go home, they get to be in front of a screen all day. So that's the negative stuff in the community is the fact that we are pushing so much technology where yes, maybe it makes things easier and there's good to, but in terms of physical fitness and activity, a computer can't get you physically fit so.

R *- Yeah, yeah. Okay, last one for this section here. Anything that as you look into in the future that could use to help increase this and maybe it would have been done differently in school to help your students reach or get close to the rung five goal of throwing,*

T *- You know, we may be similar to kicking but we do a lot more throwing and kicking here just in different games. We throw a lot of different objects and implements and things like that. So, I think we do a pretty good job covering throwing technique. Again, maybe doing some specific skill-based days or just focus on the skill of throwing whether it be for distance or for accuracy or for technique, where it's not putting to game context, but I think a lot of that's going to come back to kids doing these things when they're outside of school to you know, play is important. Playing in outside organizations and things like that. If that's something they want to do, I think that we have to do more of it outside of it. I think we do a good job of throwing through to a ton of throwing games and cover that a lot. It's going to come down to kids can get in those repetitions, maybe outside of school, whether they're playing with friends are doing different things that involve throwing, okay.*

R *- So for the kids who are meeting the expectation, why do you think that is?*

T *- I think it's exposure at young age to different types of whether it be outside sports teams. I know, I*

kind of come back to you know, family values, you know, where their family values on physical activity, and is that something that they make time for and are you know. I think even more importantly is that as are our parents, our kids seeing their parents being physically active, physically healthy, you know, when kids are young at this age. Talking about nutrition, they can barely make their own food right. So that's the parents preparing healthy meals. Is it the easiest thing to throw some process on the table and be done with it. And, you know, I think that a lot of that again, and what kids do outside you know, are you playing with your friends outside doing activities or are you not playing with your friends, but you're seeing them on the computer playing different types of you know, these online games. So yeah, I think that's, that's a big thing. You know, we can come in here and we can have students that you know, we can teach the greatest Phys Ed program in the world, but if they leave here and the only physical activity and the only time that they're, you know, throwing a ball or striking a badminton birdie, is in Phys Ed, they're not going to get the skills. It's not really going to be making headway. So, the kids that seem to do these things outside of that, I think are the ones we're seeing that are being more physically literate, and it's not even the ones that are doing organized activities to be organized. It's, you know, kids aren't just playing those pickup games anymore. And, I think, you know, it comes back to that, and I think it really all comes back to what's valued in the home. You know, I think that's the more the more I hear, the more I you know, realized that it comes back to home life and sometimes the teacher, there's nothing you can can't really do much about that you do what you can in school, but, you know, sometimes that the home life is always going to make that blockade of why we're maybe seeing this trend that obesity and kids are being physically literate and kids aren't having the skills and tools to be able to do different activities.

***R** - Last couple of questions here. So for the children that were successful, what do you think are*

some of the characteristics that they all share?

E *- Family involvement, exposure to things outside of school, you know, individual drive to want, you know, they have some natural ability, and they're in situations where they're allowed to use that ability. I think, you know, in this high poverty area, it's I think a lot of kids are just not given the exposure to things. You know, we do what we can to offer our sunrise fitness so that everybody has the option to do that. So, we do have a decent amount of kids that do that. But I think that the families that are involved with prioritizing, health and wellness are you know, those are going to be the kids are able to do these things because they do them on a regular basis.*

R *- Flipping the script, there's anything the kids who weren't successful, some common characteristics between them?*

E *- Probably just low income, split families, you know, they're between two houses. So there they have no consistency even if maybe they had the financial ability to do it. Having consistency and not attending these things because they're split between two homes. Parents don't feel it's a priority. I mean, look, you walk around this building on, you know, conference day, not conference day, but like we had like a health and wellness day in the evening for kids. parent teacher conferences. I mean, you can see the obesity, walking around the building, you can see, you know, the poverty walking around the building. So, I mean, it's not surprising some of this.*

R *- Okay. So as we kind of wrap up here, so for the children that were successful, and I know the sheet I gave you with the data on it has the boys and girls the numbers and all that stuff. What do you think are some similar characteristics that they all share for the students that were successful?*

T *- Yeah, I think the similar character is they've probably all either they play sports in some sort of outside organization, whether it be soccer, whether*

it be baseball, basketball, and I think that they do a lot more, you know, outside playing when they get home. Whether it be on the weekends, or you know, I could probably take the kids on the playground, watch them playing and point out the kids that I think were probably the ones that were successful and point out the kids that probably weren't just based on what they're doing outside.

***R** - Yeah. Okay. Alright, so last question I have is do you have any lingering thoughts on that you'd like to share regarding everything we've talked about things you've seen, lingering last second thoughts or questions?*

***T** - Um, no, I think that we covered I mean, they said that the data is good. It's eye opening in that. You know, we definitely, you know, we're seeing a decline I wish we had data like this from you know, the tests, you know, five, six, seven years ago, or even, you know, pre COVID to now. To have something to compare to, because I just think that we're definitely seeing a drastic transition of kids that are less physically active, less physically literate. Well, less could be bothered about physical activity where, you know, you hate to say sometimes it's, it's looked down upon for being physically active and being healthy, you know, and I think that we're definitely shifting away from that where we got to, we got to somehow turn the needle the other way and you know, maybe if kids and their parents saw, you know, some of this information, you know, we used to give out fitness test reports. And, you know, parents didn't like to see that their kid couldn't do a push up, or, you know, we used to give out height and weight. And parents didn't like to see that their kid was overweight. So, we'd always get the emails and we stopped doing that portion of it because it was more trouble than it was worth but, you know, because I think sometimes parents know but they don't want to see it. They don't want to, or they don't want to believe it. So somehow finding a way to be yes, to be sensitive to the situation because for a lot of families it can be, but finding ways to show families Hey, we're not*

meeting this standard kid can't do some of these skills, your kids not physically fit. And then you know, maybe it's our job. Maybe as teachers to jumpstart some sort of a plan for them. We can't do it all right, but they will just say hey, these are some steps that you can take moving forward to hopefully, you know, get your kid trending in the right direction. But you know, we're definitely seeing that transition. And, you know, it's sad and I hope that you know, some of these tests and things and as we get further away from maybe COVID, it brings that to light, we can kind of get back to how it used to be or just getting somewhere you know, being physically fit and physically active is a priority where now it just doesn't seem like it as much you know. We're seeing in athletics too. Kids don't want to do athletics anymore. It's, you know, there's easier things kids can do that, that you know. We are losing kids in athletics where you know, numbers are down and also across all sports teams you know, and that's going to hurt. I coach like wrestling, that's a pretty physically demanding sport. I'm like, you know, I look at a sport like football to hear where the numbers are low and footballs. A big sport like where are we going to be in five years from now with our numbers if we're losing kids now? So, we got to find a way I think to shift the needle the other way and hopefully getting some good data and assessments and they're bringing to light you know, this is what we're looking at is a good start. Yeah.

R *- Yeah, definitely get that. Alright, so changing gears here a little bit. We're hear in society about an obesity crisis with kids and many believe that kids today don't have the prerequisite motor skills to lead to physically active and enjoyable lives. Along with that, they don't, or they won't have the skills to stay physically active throughout their lifetime. Would you agree with that opinion? For kids overall in society today?*

T *- I think, um, if you were to ask me this five years ago, six, seven years ago, I would have said maybe, but I think over the past two or so years, I would*

definitely agree with that statement, and I think we're definitely seeing a transition, whether it be post COVID. Whether it be the increase in technology, but I think that we're definitely seeing that lack of in the prerequisite motor skills and maybe just this the ability and knowledge to live healthy, healthier lives, active lives.

R *- And why would you say this anything specific?*

T *- I think you just kind of see, you know, when you're doing fitness testing, you kind of look at some of the scores where, you know, a couple years ago you would see the scores were definitely higher. They were more within that healthy range. And, you know, we're definitely seeing scores that are much lower if some kids can't even perform the test. And you know, when you're looking at some of the motor skills, things like throwing and catching and striking. A lot of students just have a very, very hard time of doing those skills. Skills that typically kids come in, even if they don't necessarily play sports and things outside of school or organized sports, they could typically do fairly well. And I think we're just seeing that lack of play. Kids aren't going out and playing any more and playing outside and playing a pickup basketball game or, you know, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just playing into more of a technological age, you know, post COVID, which I think that that's definitely contributing to that problem that we're seeing here.*

R *- If you had to guess, do you think that most kids in the US here would have similar results to your students if this was, you know, a nationwide study done in each state and reported big numbers, things like that?*

T *- Yeah, I think so. I think that I would think that you're going to see similar results. Yeah.*

R *- So as a Phys. Ed teacher, do you think, I know we kind of briefly already talked about this, but do you think that there is a crisis in kids today that aren't physically active that are acquiring the fundamental movement skills?*

T *- Yeah, I think so. I think we are seeing that I mean, the number of kids you know, nine years ago that would come in and you know, even if they didn't play a specific sport and organized league can do some of these things. The amount of kids now is definitely dropped off. So I do think that we are in a bit of a crisis in that and kids getting those fundamental motor skills. We saw a difference in you know, did they say nine, eight years ago it was we had kids that played. Maybe they weren't the best, but they weren't completely couldn't do it. But now we're seeing a big gap where it's either the kids do it, or they don't and there isn't there's not too much of that in between anymore.*

R *- Okay, flipside of that kind of answered a little bit, but do you think you could guess and find any similarities? Could you even say a couple of similarities if you'd like between the children who were not as successful?*

T *- I think a lot of it's going to be no. I think if you're looking at fitness is probably going to be a big part of it. You're going to look at the kids who don't know whether they choose not to or they don't have access to or maybe the parents or whoever isn't taking care of them. They might not be involved in that regard of doing outside types of organizations and sports and stuff that might not be the priority. You know, kids when they're playing outside on the playground, they're not playing the pickup football or you know, using the monkey bars, but they're kind of, you know, sitting you know, sitting down doing stuff on their phones and computers as opposed to being outside and playing so. So yeah, I think that you're going to see the similarities of the kids that just, they're doing more you know, more screen time you know, less time outside. The amount of kids that you know, I'm*

playing you know, video games, it's like, where the other the other kids were getting outside doing something. So, I'm sure I'm sure you're going to see the similarities and go to the playground you told me to point out, kids that did it kids that did and I'm sure that, you know, I could point out point that out to you.

R *- Okay, good. If there's anything you'd like to add on, I know we asked this question with kicking. Is there anything that in the future could change or be done differently to get those students closer to the school?*

T *- You know, we do some badminton that's about it. So we don't do a ton of racquet sports, especially with those type of balls so I you know, when we incorporate some different types of racquet sports like a pickleball or something into our curriculum, where maybe we're striking different objects in different planes. I think this would definitely help in that regard, as we only do badminton now using a long-handled implement from a using a different type of implement, you're striking that birdie as opposed to that ball. So I think if we maybe incorporate a few more racquet based activities into our curriculum that could help a little bit and again, outside of school, you know, it's just going to be kids seeking out some opportunities to, to get on different courts and play you know, whether it's, you know, tennis or pickleball, or badminton, which is not those are not typically the easiest sports for young kids to seek out. But yeah, I think for here if we maybe incorporate a few more racquet sports, you know, that could definitely help them just getting familiar with different implements and striking.*

R *- Alright, so like I said, I'm using the Ladders for my thesis here. Within the document that was created, and this huge assessment tool. There are 16 different motor skills that have Ladders created for them. Each Ladder has nine rungs or steps that give objective progressions that each student can strive for, as they go up the ladder. So, an example*

and I know you've seen a bit of this. With kicking though, as the first rung says, "can kick a stationary ball without falling over." As you work up the ladder, rung fives is "kick a stationary ball a distance of 60 feet." And the ninth and top rung says, "kick a ball through the air at a distance of 60 feet." So, you know, my research and data, I was looking at kicking, throwing, striking and jumping rope. And that's kind of what I wanted to find out. So, I have the actual data. So, the 23 students that we had, after collecting the data, 22 out of 23 students could kick a ball of 60 feet a distance of 60 feet. What are your first thoughts on that?

E *- I mean, that's surprising to me.*

E *- Um I mean, I guess that's probably what I would expect.*

R *- Cool. So just a little bit of insight and again, I know stuff we've talked about, when it comes to the Ladders. I know I have an example I'll give you, but so each ladder has nine rungs or steps that gives an objective progression for each student can strive for, towards you know, throughout their career. So, using the kicking ladder example. So the first rung is that the students can kick a stationary ball without falling over. That's something that you typically you know, something that's very early on in their life, you know, maybe kindergarten first grade level, and then as you work up the ladder, you have rung five that says kick a ball, a stage stationary ball, a distance of 50 feet. Then the top rung says kick a ball through the air a distance of 60 feet. So that's kind of a little bit of insight into what I was doing and the type of tool I was using for my thesis here, so we'll talk about some of the results that I got from your students. Let's go ahead and start kicking. So, after the data collection, I had 22 out of the 23 students that could kick a ball 60 feet. What are your first thoughts on that?*

T *- Um, yeah, I think that seems pretty reasonable. Considering you know, the goal is to kick it 60 feet, whether it be on the ground would be in the air. You*

know, and we're not looking at necessarily the technique of kicking, so I think that you know, I would expect it to be a majority of our students kicking wise just for distance. Yeah, I think that they could do that.

***R** - So how important of a goal do you think it is? of kicking a ball? 60 feet, be honest.*

***E** - Yes, kids should be able to step and kick without falling over for sure. I don't mean, it's probably not as important as some other things but.*

***R** - How important will you think it is for this skill?*

***E** - Um I mean, I think kicking a ball is more important than this skill. You know, should they have good hand-eye coordination, I mean, I think this would be better if the parameters been different.*

***R** – Alright, last skill. We had 14 out of the 23 students who could throw a ball of 50 feet in the air. Any thoughts on that?*

***E** - I mean, it's throwing is just as important as kicking. So I mean, they're all important skills, because there's things you won't be able to do if you can't get these basic skills down. Yep, you know, definitely limits what they can do on the future.*

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R *- Yeah. Alright. So how important would you say this skill and this goal is of striking the ball consistently, alternating both sides six times in a row inside of hula hoop? I know is this that something that doesn't happens typically in sports or something that is, this is kind of a more specific skill and activity?*

T *- Yeah. So, I think if you're looking specifically at the skill, probably not incredibly important, but if you're looking at the hand eye coordination and being able to judge force and how hard or soft to hit the ball, being able to orient your body and by staying in the hoop and knowing where you are. I think that that's incredibly important. I mean, are a lot of things that we do work on fine motor skills and gross motor skills, not just you know, for Phys Ed and sports, we have things that we do in the real world. So yeah, the specific thing, we're hitting the racquet, probably not, but if we're looking at what we're trying to hopefully measure and that's some gross motor skills, some coordination, and they got to work on some balance. I think it is incredibly important. And I you know, I think that students should, you know, be able to, to do this, you know, we were having some students who would hit it once and it would go flying or you know, we'd have some students that can do the six, but I would like to see us hopefully get more in the future. And again, that's a lot of the, again, judging force, how hard and soft to hit stuff. So, all those things are I think are important in what you're trying to measure. I just, you know, getting the skill not so much but*

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R *- Alright. What would you say is there an importance of throwing a ball 50 feet?*

T *- No, I just think throwing is just an essential skill that kids should definitely know how to do regardless of if you're playing throwing sports or not. I mean, for it again, we're looking at a kind of Phys Ed and I think it's important for a lot of the activities we do require you to throw, require you to catch outside of that. I mean, I guess you can get away not being a very good throw. Right? But yeah, I mean, I think it's kind of similar to kicking. I think it just depends on what the person is trying to accomplish later on. But I think that because so many sports and so many things we need to do just in general you know, throwing whether it's you know, like throwing a ball or you know, tossing something to someone. So how important I think it's? It's pretty important. I wouldn't say it's like top of the list important but thinking about, you know, some of the thing's kids can do with it outside, it would make life a lot easier if they could throw a*

ball 50 feet, you know, when they're playing with their friends and stuff.

R *- Alright. So looking at the striking with a racket. You had three out of 23 students who could strike a ball upwards continuously, alternating both sides of the racket six times. In a row, while staying inside of a pool. What are your first thoughts on this?*

E *- I'm not surprised by that. I think that's a difficult skill. Um, you're asking them to keep their feet inside a hoop. That's difficult, because I mean, you have to move sometimes, because the ball is not going to come off the racket, you know, directly above the racket. So I mean, there's they were restricted with movement. So, I think that's tough. Switching the racket, you know, up and down, I think is extremely difficult. I think they would have I don't know, I guess I'm not sure what you're looking at there.*

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E *- This is a tough skill. Um, we don't do a lot of it. Throughout the school year. I think this you know, it's hard for kids to do one or two, let alone yeah, you know, 30 seconds is a long time. I think I would have a hard time not catching my foot for 30 seconds. And I just don't know how much exposure kids are getting to jump in and out on a consistent basis.*

R *– So, I'll go with that for now. Based on the data that was presented, how could you use this information as a PE teacher?*

E *- I mean, I just obviously if we're looking at these numbers, and they're low numbers, you know, we have to increase exposure to this now. The hurdle is time. And, you know, we can only do so much in the 40 minutes that we have them. You know, when we get to our school, it's hard to specifically focus on just the skills without adding more to it. So that's why we're having a difficult time here. We're not even able to do you know, you hope to you know, do things individually, add some things together with*

other kids, add a little bit of competition, more challenge and we can't even really do that as much anymore. We're going back down to teaching basic skills, right.

***R** - So understanding that this data, it may not be the most differentiated just due to the circumstance of being only here and all that stuff, but can you see using this information that you have when it comes to planning and curriculum.*

***E** - I mean, yes and no, because I think we already know. I mean, we know what our kids are able to do. I mean, yes, this breaks it down and gives us a nice number and we can see it on paper and that's great. It doesn't change the fact that we are limited by time limited by a lot of different things. I mean yes, I think it's helpful to see.*

***R** - Alright, jumping rope, so, after the data was collected, we had one out of 23 students who were able to jump a self turn rope for 30 seconds without a miss. What are your first thoughts on one second here?*

***T** - Yeah, that's definitely not surprising to me. Yeah, we, we did like a kid's heart challenge. We had some different stations a couple weeks ago. And you know, we have some jump roping stations. So, watching some of the kids jump rope kind of definitely expect that. I think 30 seconds is definitely a long time for you know, unbroken for younger kids to jump rope, especially if not incredibly efficient at the skill it gets very tiring. So, that's not surprising to me. I think that that's definitely what was expected when I first kind of saw the result.*

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***R** - Okay. Alright. So, I think this is our last skill here. So, a little bit left, but throwing wise we had 14 out of 23 students who could throw a ball 50 feet in the air, so roughly about half. What are your thoughts on this?*

***T** - Yeah, I think that this is pretty standard. I think when we're looking at throwing the ball in the air. I think that's kind of what was expected. I think that you know, I was going to depend on how often they throw, or you know, their technique of throwing. So yeah, not too surprising.*

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when you're working with these students for almost an entire year, you can kind of get a good gauge of how their fine motor skills are going to be and some of their coordination. So, I think that yeah, it was pretty standard. But of course, as a teacher like man, that's a pretty low number.

***R** - What about here at school? What are any things that maybe limiting students from getting those levels of physical activity?*

***E** - Within the school community?*

***R** - Yeah.*

***E** - Like as far as teachers not taking them out to for recess. I think that there's so much pressure academically on meeting you know, reaching certain minutes of academics that you don't see the longer recesses. You don't see the focus on getting up and moving. So, I think a lot of these kids, they come in and they have PE twice, maybe three times a week, and that might be the only activity that get in a day. If you have some teachers that really focus on getting kids up and moving and that's awesome. But not everybody does.*

Skill Based Performance and The Use of Physical Education Assessment Tools

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know, the technique of kicking understanding, you know, where your dominant foot goes. Where your plant foot goes, I think is pretty important. You just want to be able to do those skills. If you're in a situation where you know what you're playing with your friends, and you don't have to sit out so would it be like this is the top-of-the-line important skill? No, but I think that every kid should have a base of kicking and throwing regardless of what the goal is.

R *- So this one might not apply the best. But is there anything you think can get done to have more kids do it and for us right now we know that 20 to 23 which is almost everyone. I wish I could remember exactly what happened with that ones who didn't make it.*

T *- Um, you know, if I just take the 20 out of the 23 and if I'm looking at, you know, regardless if they made it, you know, I try to analyze everything regardless, they just made the 60 feet you know, I think something that we can do you know, we do a soccer unit, we do some different types of kickball games, but you know, I would think that if you just do it once or twice a year with kicking stuff. Maybe that kind of activity, don't get that the repetition so maybe at certain times throughout the year throwing in some different types of kicking games. Whether it be some skill work in kicking, whether it be for one or two classes, just to keep kids fresh with anything. Whether it be throwing or kicking or, or striking where you're just, you know, we're not going to do any type of game, but we're just going to work on our technique of striking, you know, a couple times throughout the year so we're always revisiting it. They can just focus on the skill of striking as opposed to striking. So, maybe having more just days where we're incorporating throughout the year and sprinkling in just basic skill-based progression days could be something that could help some of the you know. I know we got a pretty good outcome here, but you know, that they'd have outcomes thinking about technique. I mean, I'm sure a lot of those kids didn't have the greatest of technique. So, you know, maybe that if*

we did you know, maybe that we got that 23 out of 23. So, outside of school that's going to come to hopefully giving kids more opportunities to do things like soccer and different types of where they go to the Rec Center and play kickball but in school I think if we could, you know a couple days a year sprinkle in kind of some of these skill based days think that would help just keeping kids getting repetition so they don't forget how to do those things.

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R *- Yeah, yeah. Okay, last one for this section here. Anything that as you look into in the future that could use to help increase this and maybe it would have been done differently in school to help your students reach or get close to the rung five goal of throwing,*

T *- You know, we may be similar to kicking but we do a lot more throwing and kicking here just in different games. We throw a lot of different objects and implements and things like that. So, I think we do a pretty good job covering throwing technique. Again, maybe doing some specific skill-based days or just focus on the skill of throwing whether it be for distance or for accuracy or for technique, where it's not putting to game context, but I think a lot of that's going to come back to kids doing these things when they're outside of school to you know, play is important. Playing in outside organizations and things like that. If that's something they want to do, I think that we have to do more of it outside of it. I*

think we do a good job of throwing through to a ton of throwing games and cover that a lot. It's going to come down to kids can get in those repetitions, maybe outside of school, whether they're playing with friends are doing different things that involve throwing, okay.

R *- Agree. As we look into the future. What do you think could have been done to increase this number?*

E *- I mean, probably my answer will be the same for all. Increased exposure and, you know, doing it from kindergarten, you know, it's not just thrown at them at a certain level. I think you have to build skills. So I think you have to continue to add more to it. So maybe at a higher level, adding more parameters and having it more open as you are lower, you know.*

E *- And that's kind of the whole point of our program too, is to add things you know, a bit more challenge as you progress through.*

R *– So, I'll go with that for now. Based on the data that was presented, how could you use this information as a PE teacher?*

E *- I mean, I just obviously if we're looking at these numbers, and they're low numbers, you know, we have to increase exposure to this now. The hurdle is time. And, you know, we can only do so much in the 40 minutes that we have them. You know, when we get to our school, it's hard to specifically focus on just the skills without adding more to it. So that's why we're having a difficult time here. We're not even able to do you know, you hope to you know, do things individually, add some things together with other kids, add a little bit of competition, more challenge and we can't even really do that as much anymore. We're going back down to teaching basic skills, right.*

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***R** - Again, anything in the future you think could be done, either in and out of school, to get that those students closer to this this goal?*

***T** - you know, I think in school is that you know, I think about the times we do jump rope, they do a little bit in our fitness center, or they'll do like our jump rope or kids heart challenge unit but we don't do a ton of it. I know there's a lot of like good jump roping units where people do different progressions and use different types of implements, and different types of rope. So, I think almost if we incorporate some form of jump rope unit that's very progression*

based where we're starting at step one, and hopefully working up to a certain amount of time for you know, unbroken jumping rope, I think that there would maybe bring up some of those numbers because you know, you watch a lot of kids jump rope. I was watching some of them jumping backwards. They got their arms all over the place. They bring their legs up real high, they get it's more exhausting than not very efficient. And so, I think it'd be incorporating some sort of a jump roping unit eventually for a couple classes where there's some progression based on, I think that would help. Hopefully bring up some of those numbers.

R *- Okay. Do you think that this data is worth having and collecting? Or do you think that it's not very telling of the physical literacy levels for fifth grade students?*

T*- I don't think it's not worth having. I think that some of the data, I think it's finding out maybe almost having more. Start at the bottom of the of the ladder a little bit more and start with some easier skills and then work your way up to kind of see where, alright, this is where we're starting to lose kids. Whereas if we started at step one, okay, majority could do 1, 2, and 3 kind of working through it. Now we can see where the breakdown is a little bit more a little bit more meaningful because they've also had that right warm up period. You know, same thing with some of the other skills, you know, starting kind of at the bottom and then almost trying to hit those steps and more of a sequence. So, then you can get to the point where right, well this is where we're breaking down the striking where we're alternating palm up, palm down, well, okay, so now we can kind of go from there. So, I don't think it's not worth having and collecting as long as that were, you know starting at the right level or even starting below where we think we should and then working to a level that's tougher.*

R *- Okay, good. If there's anything you'd like to add on, I know we asked this question with kicking. Is there anything that in the future could change or be*

done differently to get those students closer to the school?

T *- You know, we do some badminton that's about it. So we don't do a ton of racquet sports, especially with those type of balls so I you know, when we incorporate some different types of racquet sports like a pickleball or something into our curriculum, where maybe we're striking different objects in different planes. I think this would definitely help in that regard, as we only do badminton now using a long-handled implement from a using a different type of implement, you're striking that birdie as opposed to that ball. So I think if we maybe incorporate a few more racquet based activities into our curriculum that could help a little bit and again, outside of school, you know, it's just going to be kids seeking out some opportunities to, to get on different courts and play you know, whether it's, you know, tennis or pickleball, or badminton, which is not those are not typically the easiest sports for young kids to seek out. But yeah, I think for here if we maybe incorporate a few more racquet sports, you know, that could definitely help them just getting familiar with different implements and striking.*

R *- Alright, so we hear about in there is an obesity crisis with kids and they believe that kids today don't have the prerequisite motor skills that lead to living physically active lifestyles. Along with that, they may or may not have the abilities and skills to stay physically active for a lifetime. Is that something you would agree with for kids overall today in society? What would you think these reasons are?*

E *- Kids don't play anymore. I think that you see if you were to drive around town, on the weekend or even in the evenings, you just don't see kids playing as much as they did. You know, back in the day, I think there's a lot of pressure on families financially. I think a lot of parents are involved in other things and they don't prioritize activity with their children. So, I think there's a lot of different*

factors if they're not exposed to it, parents can't afford to get them involved in activities outside the home. That's a factor if they're not living in communities where it's not easily accessible. I think that's a factor. I think, safety in general, parents are a little bit more concerned about safety, so they're not as likely to let kids go out and play. There's a lot of factors that contribute.

R *- Good. Alright. So the national standards, they have the term physical literacy and that's a massive component that is taken into account when developing the standards. So SHAPE America defines physical literacy as the ability to move with competency and confidence in a variety of physical activities in multiple environments that benefit the healthy development of the whole person, based on personal experience and opinion. What percent of fifth grade students would you say are physically there and again, it kind of same thing in a sense, but looking at the competency and the competence.*

E *- Yeah, I mean, it is a similar question.*

R *– Yeah.*

E *- I don't I don't know. I mean, 40% might be that correct. I don't. I just think we have a population of kids that don't have a ton of knowledge about why it's important to be fit and aren't exposed to a lot of activity. So, I don't know that they could, like if they were asked to do things independently without guidance from others. I don't know. Maybe it is closer to 60%.*

R *- Yeah, definitely get that. Alright, so changing gears here a little bit. We're hear in society about an obesity crisis with kids and many believe that kids today don't have the prerequisite motor skills to lead to physically active and enjoyable lives. Along with that, they don't, or they won't have the skills to stay physically active throughout their lifetime. Would you agree with that opinion? For kids overall in society today?*

T *- I think, um, if you were to ask me this five years ago, six, seven years ago, I would have said maybe, but I think over the past two or so years, I would definitely agree with that statement, and I think we're definitely seeing a transition, whether it be post COVID. Whether it be the increase in technology, but I think that we're definitely seeing that lack of in the prerequisite motor skills and maybe just this the ability and knowledge to live healthy, healthier lives, active lives.*

R *- And why would you say this anything specific?*

T *- I think you just kind of see, you know, when you're doing fitness testing, you kind of look at some of the scores where, you know, a couple years ago you would see the scores were definitely higher. They were more within that healthy range. And, you know, we're definitely seeing scores that are much lower if some kids can't even perform the test. And you know, when you're looking at some of the motor skills, things like throwing and catching and striking. A lot of students just have a very, very hard time of doing those skills. Skills that typically kids come in, even if they don't necessarily play sports and things outside of school or organized sports, they could typically do fairly well. And I think we're just seeing that lack of play. Kids aren't going out and playing any more and playing outside and playing a pickup basketball game or, you know, playing kickball with their friends. A lot of it, I think, is turned into the latest, you know, video games or computer games and things like that. So, we're kind of transitioning from kids being active and being outside and just playing into more of a technological age, you know, post COVID, which I think that that's definitely contributing to that problem that we're seeing here.*

R *- If you had to guess, do you think that most kids in the US here would have similar results to your students if this was, you know, a nationwide study done in each state and reported big numbers, things like that?*

T *- Yeah, I think so. I think that I would think that you're going to see similar results. Yeah.*

R *- So as a Phys. Ed teacher, do you think, I know we kind of briefly already talked about this, but do you think that there is a crisis in kids today that aren't physically active that are acquiring the fundamental movement skills?*

T *- Yeah, I think so. I think we are seeing that I mean, the number of kids you know, nine years ago that would come in and you know, even if they didn't play a specific sport and organized league can do some of these things. The amount of kids now is definitely dropped off. So I do think that we are in a bit of a crisis in that and kids getting those fundamental motor skills. We saw a difference in you know, did they say nine, eight years ago it was we had kids that played. Maybe they weren't the best, but they weren't completely couldn't do it. But now we're seeing a big gap where it's either the kids do it, or they don't and there isn't there's not too much of that in between anymore.*

R *- How important will you think it is for this skill?*

E *- Um I mean, I think kicking a ball is more important than this skill. You know, should they have good hand-eye coordination, I mean, I think this would be better if the parameters been different.*

R *- Alright, so the next few sections are going to be repetitive. I was talking about the other three skills that we did with the students. So the next one we have is striking with the racket. So, after collecting the data, we had three out of the 23 students who could strike a ball upwards, continuously, alternating both sides of the racket six times in a row while staying inside of a hoop. What are your thoughts on this?*

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what we're trying to measure is pretty important. So.

***R** - Right. Looking into the future, what are some things you know, we could have done or perhaps done either in or out of school to get your students to reach that goal?*

***E** - I mean, just more exposure to being able to practice that skill.*

***R** - Alright, we're going to change gears again. So, assessments wise, do you guys here currently assess your student's fundamental movement skills?*

***E** - Yes.*

***R** - How do you assess your students and are there any specific tools that you use?*

***E** - We usually just use independent ones and ones of the K through 12 things that we've developed rubrics and different assessments that we use individually for each unit. So, it's more, you know, activity specific. And then if we have kids that, you know, we have identified as struggling, you know, we use a TGMD for a closer look at that.*

***R** - So you kind of said that you assess pretty much all the skills and units you've done.*

***E** - Yes, and all of our activities, you know, movement wise, and all of our physically active ones. So you know, obviously cooperative games, we're looking at different types of assessments but.*

***R** - How often are you assessing them? Every week? End of the unit?*

***E** - Um, usually a couple times throughout each unit. Each unit can last anywhere between two weeks to four weeks. So we'll usually pick whatever we think is the most. You know, whatever skill we're looking at, you know, what we like to see from that, you know, if it's soccer, you know, are they able to*

do you know, local motor movements? Are they able to track the ball or that you know, if whatever the activity is, we look for what we think is the most important thing in that activity.

R *- So, have you ever heard of P.E. Metrics? It's a formal tool that follows national standards. Have you ever used it or considered using it?*

E - No.

R *- completely agree. Changing gears again here, as you can get into the classroom, in the Phys Ed setting, are you currently assessing your students fundamental movement skills?*

T *- I would say yes, not necessarily on a formal level where we have you know, charts and stuff like we do, you know, constantly do some assessment where it's more observation based where we can kind of see you know, where they're struggling, where they're doing well. So, we don't use necessarily paper you know, those formal assessments, because it doesn't tie into our grades. We're standards-based grading here. So, a lot of our grades are based more on preparation, responsibility, effort based as opposed to actual numbers. And class time is short. So you know, to do this, it cuts into some class time. We have big numbers, yet we are responsible for a lot of students. So, we do what we can to assess, but it's more of an informal observation as opposed to more of a formal specific test that we use.*

R *- Gotcha. So, I know that you've had a little bit of experience with what I've shown you and what the kids did, things like that. And that's the Ladders to Success assessment tool. That's kind of what my whole thesis is about. So based on what you've seen, is that something that you may have interest in using with your students in the future and I know that we'll talk about some of the data here in a few minutes. But any interest in using that and then just why and why not?*

T *- Yeah, I think so. I think we're always looking to*

try and find a good way to formally assess our students as long as it it's, it's feasible I think in a setting where you have maybe 20 kids and you're just doing one class that everything seems great, but when you have 50 kids in a class, you have 40 minutes, you know, limited on time. Limited on equipment. I think that that makes it tough. So any type of assessment that seems to kind of meet those realistic barriers that we sometimes we see in Phys Ed. We would love to use I think that you know, before I would use a couple of you know, as we're going to dive into some of the research here, just, you know, what are some of the ladders, you know, lower, higher? And what are some of the reasons for some of the tests being used, like, where's the research? Why this one seems to be, you know, what we're using as opposed to something else and you know, and again, more, I guess, more in depth on how it's used, okay, that would be something to look into. But again, if it, you know, works well and meets realistically what we can do, and it's got some good validity and reliability to it. Yeah, absolutely I would think about using it.

R *- Gotcha. I'm looking at your bookshelf here, do you or have you ever heard of P.E. Metrics, which is a formal tool that follows the national standards for Phys Ed?*

T *- I have probably when I was in college, but I haven't heard much of it recently, so that might be something to definitely look into. But yeah, I have not really used it recently. Our big way of assessing when it comes to fitness is we use fitness gram. That's maybe the most formal assessment that we do that's maybe well-known but ya know, haven't heard of it, but have gotten away from it over the past couple of years. So*

R *- Cool. So just a little bit of insight and again, I know stuff we've talked about, when it comes to the Ladders. I know I have an example I'll give you, but so each ladder has nine rungs or steps that gives an objective progression for each student can strive for, towards you know, throughout their career. So,*

using the kicking ladder example. So the first rung is that the students can kick a stationary ball without falling over. That's something that you typically you know, something that's very early on in their life, you know, maybe kindergarten first grade level, and then as you work up the ladder, you have rung five that says kick a ball, a stage stationary ball, a distance of 50 feet. Then the top rung says kick a ball through the air a distance of 60 feet. So that's kind of a little bit of insight into what I was doing and the type of tool I was using for my thesis here, so we'll talk about some of the results that I got from your students. Let's go ahead and start kicking. So, after the data collection, I had 22 out of the 23 students that could kick a ball 60 feet. What are your first thoughts on that?

T *- Um, yeah, I think that seems pretty reasonable. Considering you know, the goal is to kick it 60 feet, whether it be on the ground would be in the air. You know, and we're not looking at necessarily the technique of kicking, so I think that you know, I would expect it to be a majority of our students kicking wise just for distance. Yeah, I think that they could do that.*

R *- Alright, would you be interested? I know we've talked a little bit about like the ladders and everything that I've been doing. Would you be interested in using the Ladders to assess your students skills in the future, kind of based on what you saw and the little that you know about it?*

E *- I don't know a ton about it. That's definitely true. I would have to know more about it to know if I would use it. But yes, I certainly I mean, if it's something that gives us a better picture, and I'm always willing to try something different.*

R *- Alright, so like I said, I'm using the Ladders for my thesis here. Within the document that was created, and this huge assessment tool. There are 16 different motor skills that have Ladders created for them. Each Ladder has nine rungs or steps that give objective progressions that each student can*

strive for, as they go up the ladder. So, an example and I know you've seen a bit of this. With kicking though, as the first rung says, "can kick a stationary ball without falling over." As you work up the ladder, rung fives is "kick a stationary ball a distance of 60 feet." And the ninth and top rung says, "kick a ball through the air at a distance of 60 feet." So, you know, my research and data, I was looking at kicking, throwing, striking and jumping rope. And that's kind of what I wanted to find out. So, I have the actual data. So, the 23 students that we had, after collecting the data, 22 out of 23 students could kick a ball of 60 feet a distance of 60 feet. What are your first thoughts on that?

***E** - I mean, that's surprising to me.*

***R** - So from this study, this was probably one of the first done using this tool and that exploratory type of study. But do you have any thoughts for future studies that you think would be interesting to see done?*

***T** - No, I think that I mean, I think that now I'm interested to see kind of the whole ladders and see what it's about and maybe finding a way to use that. What we talked about incorporating it. One getting, seeing what the validity and reliability is over a period of time and then trying to find a way to realistically incorporate that into a school setting as opposed to a testing environment, which is kind of how we did it where, you know, a class can come in, hey, this is what we're doing today. And you're able to run through it in your 40 minutes, 35-minute class that you have and get some pretty reliable data on that.*

***E** - But again, like we asked you before, parameter wise, like, I felt like we didn't have like, does it have to be straight? Like what about the kids that kicked it off to the right or left we were in an enclosed space so would that have counted if we were outside?*

***R** - Right.*

E *- You know, I mean, so I guess I didn't really understand some of the parameters for this one.*

R *- Yeah. That makes sense. And that's something that moving forward and finding these things out is going to help.*

E *- I mean, are you looking at the kids able to produce that much force to get it that far? Or are you looking at accuracy? Like, did the ball have to be on the ground? Like, I don't know, there's a lot.*

R *- Agree. As we look into the future. What do you think could have been done to increase this number?*

E *- I mean, probably my answer will be the same for all. Increased exposure and, you know, doing it from kindergarten, you know, it's not just thrown at them at a certain level. I think you have to build skills. So I think you have to continue to add more to it. So maybe at a higher level, adding more parameters and having it more open as you are lower, you know.*

E *- And that's kind of the whole point of our program too, is to add things you know, a bit more challenge as you progress through.*

E *- When combined with other two questions, did they have to have both feet on the ground? Did they have to alternate their feet? You know, some of them went forwards, some went back. It's just a really tough skill. So, I'm not surprised by the low.*

R *- Alright. Was there anything about what you saw with the numbers that surprised you?*

T*- No, not really. I think once I heard the test and I kind of again judging the landscape of our kids, I think that that's kind of what I expected. I knew jumping rope and striking was going to be difficult. And I thought that the kicking was definitely one you heard what the parameters were, that was*

going to be the one that would be most successful. Within throwing, this was going to be about 50/50 kind of based on kid's experience throwing in strength and technique and stuff like that. So not too surprising, surprising again, in that well, we have students that, you know, can jump rope once or can, you know, have hand eye coordination, but when I look at the students, it wasn't surprising in that regard. It wasn't unexpected, I should say.

***R** - Is there any other data that you would like to know about your students, whether it's related to fundamental movement skills, or any other areas? Are there other things you'd like to know about? Or have, you know, an absolute number or a telltale sign about their performance or something like that?*

***T** - At this time? No, I think we know what we do. Fitness is a big one. I would like to see where our kids are fitness wise. We do some fitness testing, whether it's the most reliable or not, you know, it's what we use right now. I'm sure if you happen to rattle off some different tests, I would say that's probably pretty good. I want to see that, but off the top of my head no, I think we kind of covered some of the throwing and kicking one are pretty, pretty standard.*

***R** - So from this study, this was probably one of the first done using this tool and that exploratory type of study. But do you have any thoughts for future studies that you think would be interesting to see done?*

***T** - No, I think that I mean, I think that now I'm interested to see kind of the whole ladders and see what it's about and maybe finding a way to use that. What we talked about incorporating it. One getting, seeing what the validity and reliability is over a period of time and then trying to find a way to realistically incorporate that into a school setting as opposed to a testing environment, which is kind of how we did it where, you know, a class can come in, hey, this is what we're doing today. And you're*

able to run through it in your 40 minutes, 35-minute class that you have and get some pretty reliable.