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The Relationship Between Teacher Expectations, Feedback, and Task Persistence in Elementary Children During Physical Education

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The relationship between teacher expectations, feedback, and task persistence in elementary children during physical education

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TABLE OF CONTENTS

Page

LIST OF TABLES AND FIGURES

Page

ABSTRACT

Numerous studies have been done regarding the factors that effect on task persistence of students at an activity. However, little research has been done on the influence of teacher expectations, gender interactions, and teacher feedback. This study examined how these variables affect student task persistence. The focus of this study is task persistence (TP) and feedback (FB): Participants were 3rd and 4th grade males (n = 11) and females (n = 15) who received instruction from their physical education teacher. Pre-task expectations were studied from one male and one female physical education teacher using a quasi experimental research design. In addition, gender interactions and the effect of feedback on task persistence were examined. Procedures included data collection during two task style teaching episodes during which participants were introduced to a novel motor task and allowed to persist for as long as they liked. Data analysis found that females (M = 31.00, SD = 24.71) had higher TP scores than males (M = 14.72, SD = 8.03) during the study (t = -2.38, $p < .05$). Male and female students were rated the same by their teachers prior to data collection on TP (t = .33, $p > 0.05$). Further, analyses of FB and TP did not yield significant ($p > .05$) gender interactions from these data. Negative FB (r_s = .49, $p < .05$), total positive FB (r_s = .70, $p < .05$), and total FB (r_s = .71, $p < 0.01$) all predicted persistence in the sample. For these participants, male and female physical educators had similar expectations that were not mediated by the gender of the child or teacher. Differences in TP between females and males were the result of three female participants who each had TP scores that were more than double any male's level of persistence in the study.

Significant gender interactions did not occur, but the type of feedback provided by the teachers predicted student task persistence. Feedback and TP are important variables that may impact persistence in physical education.

CHAPTER 1

INTRODUCTION

This study replicates earlier work by Kozub (2002), who examined if teacher expectations and learner attributions affected students' persistence at a novel motor task. The current study focused on the concept of task persistence, but also examined the affect of gender interactions, and feedback on task persistence. The following sections include background information, statement of the problem, importance, hypotheses, definitions, delimitations, assumptions, limitations, and a summary paragraph.

Background

Persistence is the amount of time engaged in a motor activity while attempting to master a novel motor task (Martinek & Griffith, 1994). Persistence in motor

settings has been studied by researchers who used different fine and gross motor tasks such as a balance board or labyrinth game (Kozub, 2002; Kozub, Poretta, & Hodge, 2000). Specifically, Kozub et al. (2000) examined how trials with the intent to learn differed in children based on gender and disability. In general, it is thought that student performance and willingness to persist after failure is a very complex variable. Teacher expectations and perceptions in the classroom is an important variable that may be related to learning (Cooper, Good, Blake, Hinkel, Burger, & Sterling, 1979). Along with examining expectations, this study aimed to determine if persistence of children engaged in a novel motor task during physical education instruction was influenced by student and teacher gender interactions, and teacher feedback.

Importance

Task persistence is a topic that has appeared in the literature examining why some children are more persistent than others when confronted with a challenging activity (Hole & Crozier, 2007; Kozub, Poretta, & Hodge, 2000). However, there is little information on how teacher interactions impact students' persistence after initial failure. Students may not always succeed the first time they attempt an activity. A study by Kozub, Poretta, and Hodge (2000) concluded that students need extensive practice, strategy-based feedback, and encouragement by the teacher to attain mastery. In the current study, persistence is studied during the performance of a new task while students are attempting to become proficient at a task. Having the students perform an unfamiliar task allows for a more accurate measure of persistence during a

learning situation. Further, gender interactions where teachers vary in their expectations of female versus male children, are in need of further study to determine if task persistence is affected.

The current study examined some of the same variables from Kozub (2002) in addition to a new focus on the relationship between teachers' feedback towards their students' and how this feedback impacts learner persistence on a novel motor task. According to a review of literature by Rink (2006), an expert in the use of feedback, concluded that feedback by itself is inconclusive as a true learning variable in impacting learning. However, there had not been much research conducted in physical education that examined how different types of feedback affected persistence. Understanding how feedback effects persistence is important given the link between trials and learning in physical education (Rink, 2006).

Frequency of feedback and other influences such as statements from teachers to the students, or learners, and how those learners respond to failure, make feedback a variable in need of more study. Teachers need to be aware of subtle differences between the types of feedback given and the impact of that feedback on persistence in order to determine the most effective teaching practices. If relationships between teacher expectations and feedback with task persistence are identified, student learning can be improved in physical education by helping teachers understand the role that expectations and feedback play in persistence behavior during physical education.

Statement of the Problem

The purpose of this study was to determine the effect of teacher expectations of success on task persistence of students in 3rd and 4th grade physical education classes. Further, this study examined if a teachers' feedback to children has an impact on a child's willingness to continue to attempt a novel motor task after initial failure. Gender interactions in relation to teacher feedback and task persistence were also examined. The following research questions were studied:

1. What is the relationship between teacher expectations of students and task persistence in 3rd and 4th grade children participating in a novel motor task during physical education?
2. Are there gender interactions in teacher expectations and task persistence in 3rd and 4th grade children participating in a novel motor task during physical education?
3. Is teacher feedback associated with task persistence in 3rd and 4th grade children?

Hypotheses

This study was designed to test the following research hypotheses:

1. Teachers' expectations of their students will be positively correlated to task persistence in 3rd and 4th grade children participating in a novel motor task during physical education.
2. There will be a gender interaction in favor of males based on the literature on gender typing where males are believed to be more competent and persistent

at motor tasks than females. Male students will be perceived by teachers' as having a greater chance of success than female students.

3. There will be a positive relationship between teacher feedback and task persistence.

Operational Definitions

There are some important terms that pertain specifically to this study.

Task persistence is the amount of time engaged in a motor activity in an attempt to master a task (Martinek & Griffith, 1994). In this study, task persistence is the number of trials a student performs on the Wobbler task (Appendix A). A trial was defined as any attempt where the learner steps on the board with at least one foot one the board and the ball at the front of the board, and ends when the ball falls through the hole or pops off the top of the board. Total trials are a child's score on task persistence during one session of attempting to master that task. These trials were recorded using the *Student Observation Sheet* (Appendix B).

Teacher Expectations are a preconceived ideas or opinions with regard to what will take place (Oxford English Dictionary). Teacher expectations were measured by the ratings the physical education teachers gave students using the *Student Success Rating Scale* (Appendix C). The teachers rated how successful they perceived the students would be at the task based on the teacher's expectations of their students. The physical education teachers rated the same students they had throughout the school year. Ratings by the physical education teachers were done for four separate classes. The female physical education teacher rated two of her own

classes, and the male physical education teacher rated two of his own classes. The male and female physical education teachers did not rate the same students.

Attention Span is the length of time a person can attend continuously to one type of a stimulus (i.e. single subject or activity) (Oxford English Dictionary). Attention spans of the students were rated by the students' classroom teachers using the *Attention Span Rating Scale* (Appendix D).

Teacher Feedback- Feedback includes specific descriptions and suggestions that reference students' work (Brookhart, 2008). Feedback was recorded using the *Feedback Tally of Teachers* (Appendix E) instrument. Four different types of feedback were used in this study. First, general feedback is feedback that is vague, and the person receiving the feedback does not have any specific information to use for future reference (Duke Corporate Education Staff, 2006). Second, positive feedback is judgments implying satisfaction with the learner's performance (Askew, 2000). Third, corrective feedback is when a teacher identifies something the student needs to change with the skills or activity they are doing and tells the student how they can fix it (Tzetzis, Votsis, & Kourtessis, 2008). Fourth, specific feedback is when an individual avoids pointing out errors in student's ability, and only give feedback on what the child was asked to focus on (Clarke, 2000). Lastly, negative feedback is erroneous responses where the teacher identifies what the student did incorrectly (Ball, Hoyle, & Towse, 2010).

Delimitations

This study was delimited to the following:

- Participants were suburban, 3rd and 4th grade elementary physical education students who were only being measured as they participated in the Wobbler activity (Appendix A). Persistence by these and/or other children may differ when they are engaged in another task that is either easier or harder, or a different age group.
- Data were collected in one gymnasium on a single day in the spring during a task style-teaching lesson at a small elementary school in the northeast.
- The study included only one female and one male physical education teacher.

Assumptions

There are several assumptions under which this research was performed:

- It was assumed that students had not done the Wobbler motor task previously as new pieces of equipment were purchased and modified by the researcher by cutting holes in the boards for use during this study.
- Based on pilot work, the measures used in the study have known estimates of reliability supporting that these measures are able to measure the intended constructs in this study.
- It was assumed that classroom and physical education teachers responded honestly to the rating scales.
- Teachers and students were unaffected by the use of video cameras.

Limitations of the study

Several limitations are known to exist, that may not allow the results to be applicable to all aspects of physical education:

- Data were collected at one suburban school district and included a group of volunteer 3rd and 4th grade children. Results cannot be generalized to other children from urban schools, who are not participating in task style instruction, or do not go to school in the northeast United States.
- Participants in the study were volunteers; findings cannot be generalized to participants who choose to not take part in the study.
- Findings are specific to physical education contexts and cannot be generalized to children in other academic subjects.
- For some of the participants, parents agreed to allow their child to participate, but without videotaping. As a result, data collected without videotaping were not subjected to observer agreement checks and may be prone to random error not found in scores from the videotaped sessions.
- This study did not take into account the interest level of students in the other activity stations besides The Wobbler station and how this may have affected task persistence on The Wobbler board.

Summary

Persistence and the factors examined in this study related to motor behavior in the gymnasium settings are topics that are missing from the published literature. Renshaw, Chow, Davids, and Hammond (2010) state what is evident in physical education pedagogy today that the relationship between motor learning principles is an area ripe for further study. For learning to occur in any academic discipline, it is important for researchers to help teachers understand and identify factors in the

processes associated with learning. This project will aid in planning efforts by teachers and administrators who aim to positively effect students in physical education.

CHAPTER 2

REVIEW OF RELATED LITERATURE

There are many factors in physical education that can have an effect on the task persistence of students attempting a novel motor task. Gender interactions, teachers' expectations and expectations of their students, and the type of feedback presented are the variables of focus for this study. The review of the literature will be presented under the following topics, (1) task persistence, (2) gender interactions, (3) teacher expectations/interactions, and (4) feedback.

Task Persistence

Task persistence is the amount of time engaged in a motor activity while attempting to master a task (Martinek & Griffith, 1994). A students' unwillingness to persist (or succeed) is often a result of the student's perceptions of their own ability,

or inability, to be successful at an activity. This belief about self is tied into the perceptions each child has about his or her own ability. One factor that can affect student persistence is the level of difficulty of the task and how motivated a child is by intrinsic factors when the task is perceived as difficult. Intrinsic motivation is when individuals are motivated by an interest in a task, and want to successfully complete it on their own without use of outside factors such as rewards (Pervin, 2003). A study by Li, Lee, and Solmon (2005), concluded that the level of difficulty has an impact on intrinsic motivation after initial failure at a task.

In the Li, et al., (2005) study, students practiced a novel motor task. Before they practiced the task, the students were told that the task they were going to be practicing was easy. This was done to create positive feelings of self-competence within the students. After the students practiced the task for approximately 10 minutes, most of the students perceived the task was difficult, which changed their initial positive perceptions of self-competence. At the conclusion of the activity, the students had lower perceived competence than when they started the activity. This finding is consistent with a study by Smith and St. Pierre (2009) that concluded that students perceived their ability based on the difficulty of the task. Spinath and Steinsmeier (2003) had similar conclusions when their study determined that students with high-perceived ability perform or persist at a task better than students with low-perceived ability. Li et al., (2005) also concluded that a student's intrinsic motivation is affected by performance and is positively correlated with perceived competence.

As Li et al., (2005) concluded, there is a correlation between task persistence and motivation.

Motivation

A book by Ferguson (2000) stated that motivation is "an internal process that pushes or pulls the individual, and the push or pull relates to some external event" (p.1). Motivation can influence outcomes with regards to task persistence in physical education. However, Ferguson (2000) stated that motivation cannot be measured directly as it is associated with and tied to an observable, external event. Zimmerman and Ringle (1981) demonstrated the effect of external events on motivation when they did a study where students had to complete a puzzle. Students were asked to complete a puzzle, but before these students attempted the task, a researcher demonstrated how to complete the puzzle. For some of the students, the researcher did the puzzle for 30 seconds to demonstrate low-motivation; for other students, the researcher did the activity for 5 minutes to demonstrate high-motivation. After viewing the researchers performing the puzzle, the students then tried to complete the task. Data analysis demonstrated that the students that witnessed the low-motivation demonstrator persisted less than the students who witnessed the high motivation demonstrator. This is consistent with findings by Kozub, Poretta, and Hodge (2000) and Kozub (2002) that concluded that if a student attempted a task that was perceived as easier, and felt competent performing it, the student would persist more than they would on a task they perceived as difficult.

Motivation is also known as an intervening variable, which means that it is a construct that is produced by an individual person, along with other factors (Ferguson, 2000). In addition, according to Ferguson (2000), motivation is considered a dynamic internal process that can change at any time. It can be affected in many different ways. Schunk (1991) concluded that motivation influences learning and performance based on the data collected in their study. What students do and learn, can influence their motivation. It is important that students have the motivation to persist because learning takes both time and practice and success is not immediate. Greater persistence leads to more success and accomplishments (Pintrich & Schunk, 2002). Lastly, if students are struggling with a task, these students may make excuses such as claiming they cannot persist at the task because they are tired (Hole & Crozier, 2007), even though they do have the ability to succeed and persist.

Attribution Theory. Weiner (1979) created Attribution Theory which examines how, in a given situation, people attribute reasons for their successes and failures. In situations where individuals are attempting to achieve a goal, they attribute their success and failures to a variety of factors internal and external factors, or intentional or unintentional factors. The main factors that individuals attribute their success or failures to are ability, effort, task difficulty, and/or luck. Ability and effort are classified as internal factors, while task difficulty and luck are external factors. Ability denotes repeated successes or failures that indicates whether an individual "can" or "cannot." Effort is how hard one tries at an activity or in a situation. Task difficulty is an individual's perception of how easy or hard a task is based on

observations of social norms and common task characteristics. Luck is when an individual believes that they lack control over the outcome of a situation.

The four types of attributions can be further classified into stable and unstable attributes. Ability and task difficulty are stable attributes, and effort and luck are unstable attributes. Ability and task difficulty are stable because they whereas effort and luck are considered unstable because they can change at any time. Effort can change or decrease from one moment to the next while luck implies that there can be a variety of outcomes. Individuals attribute the outcomes of situations based on their perceptions of what occurred, even if the factor they are attributing the outcome to may or may not be the actual cause. For example, if students persist at an activity, regardless of their physical or mental exertion, they look at the outcomes of the situation as a result of effort, which is an internal and changeable, unstable attribute that can lead to increased persistence based on the attribution theory (Schunk, 2008). This concept also relates to a self-serving bias in which people attribute their success to their own abilities and skills, and failures to external factors that they cannot control (Miller & Ross, 1975).

Perceived Competence. Harter's model of competence motivation explains how individuals develop self-confidence through attempting a skill or activity, and any social factors such as affect of friendships or interactions with peers that go along with performing that activity. In a meta-analysis, Waldron (2007) compiled the main components of this model. As individuals attempt to master a task, they experience successes and failures. If individuals succeed, and like the way that they feel, those

individuals are more likely to continue to attempt to master the activity. In contrast, if those individuals fail, they become worried or anxious, and, often do not continue to attempt to master the task. In terms of the social component of the model, students are affected by others' responses to their attempts, such as teachers or other students. Whether the responses are positive or negative can effect the students' feelings of self-competence.

Self-Determination Theory. Self-determination theory states that individuals can have control over their environment (Pintrich & Schunk, 2002). Individuals have a need to choose how to act and want to make decisions and choices based on their own intrinsic behavior. Individuals want to be responsible for their actions and their choices. Deci & Ryan (2000) examined literature and identified and discussed three basic innate psychological behaviors that affect behavior with regards to the self-determination theory. These are competence, autonomy, and relatedness. The first behavior is competence where individuals need to feel that they are competent in their interactions, and competent in any situation. The second behavior is autonomy where individuals need to have a feeling that they have control of their interactions and situations. The last behavior is relatedness, which refers to an individual's need to feel that they are a part of a group. All of these behaviors strongly influence how much control individuals may feel they have over their environment or a given situation, and how those individuals respond to that situation. Task persistence would be one example of self-determination theory.

Gender

Gender Stereotypes. Current literature suggests that males are believed to be more competent and persistent at motor tasks than females. Scraton (1986) interviewed the chairpersons of physical education departments, as well as physical education teachers and concluded that there is a common assumption that girls are less physically capable than boys, and that girls should avoid activities that could be dangerous or harmful. A study by Valija & Kumar (2009), consistent with the findings noted by Scraton (1986), concluded that the females in the study, were not allowed to participate in "masculine activities" such as football or rugby because the female students' teachers felt that those activities were not appropriate for females. Teachers and administrators need to form accurate perceptions of their students based on what they observe of the student in terms of behavior and performance in the classroom and look at the students as individuals. Teachers should not use common perceived ideas about male and female abilities (Meece & Painter, 2008) and should not gender stereotype.

The experience of girls in physical education is affected by stereotypes about males and females in physical education that exist today (Valija & Kumar, 2009). Valija & Kumar (2009) study concluded that the female students' believe that male students are more competent in physical education, were developed from the girls being prevented from participation in "masculine activities" by teachers, even though the girls themselves wanted to participate. Females were told that they could not participate in football because not enough females were interested, despite the fact

that there were females that wanted to play football. In this context, females are perceived as the problem because the teachers do not think that they have the appropriate ability to participate. The common theme is that females are less willing to participate in physical education because of gender issues such as teachers perceptions of students ability based on the student gender and how they perceive themselves in relation to males (Derry & Phillips, 2004; Kunesh, Hasbrook, & Lewthwaite, 1992; Velija & Kumar, 2009).

Gender stereotypes do not occur only in physical education. In the past, men have been stereotyped as being more competent than females in academic areas such as math and science (Meece & Painter, 2008), since the fields of math and science are predominantly comprised of males. An examination of demographic data by Phillips and Phillips (2010) concluded that there was evidence of a shift in gender stereotyping where they analyzed student enrollment data from a California University. The researchers concluded that a majority of students enrolled in traditionally male dominated majors in college, such as science and business, are in fact females. In some cases, there were more females than males in these "masculine" academic fields. Although males and females may have some similarities in traits and personalities across gender, they should not all be considered the same. All males should not be considered the same, because even though males have the same characteristics, they are still very different in many ways. The same is true with females. The teacher needs to know their students as individuals, and not stereotype according to gender.

Similarities and Differences. Males and females differ in a variety of ways. When males and females make attributions about their successes and failures, consistent with attribution theory, females believed that their academic failure was a result of their lack of ability and strategy, and academic successes were a result of effort and strategy (Mok, Kennedy, & Moore, 2010), consistent with self-serving bias (Miller & Ross, 1975). This perception of success and failure suggests that females are not confident in their abilities or strategies. In contrast, males commonly attribute their successes and failures to their own ability to achieve goals, shaping males' perceptions of their ability to work and perform (Vallance, 2009). Males often attribute success to ability, whereas females do not, as discussed above. If males do not believe that they can achieve high goals, then they will not work as hard or persist as much as they potentially could because they do not believe in themselves.

Males are generally more concerned with winning at activities, and demonstrating that they can perform and have the ability to achieve and succeed at activities more than females do (Murcia, 2005). Males' value "showing off" their abilities more than females do and may be more willing to persist as a result of having high abilities at a task or activity. In contrast, females are generally not comfortable with themselves and may not feel comfortable in physical education, especially when paired with males. As a result, females are less likely to want to succeed (Lodewyk, Gammage, & Sullivan, 2009).

Student Persistence. Task persistence has been studied in many different contexts. Numerous studies have examined how different factors affect task

persistence of individuals, but many of these studies group males and females together, and divide them by other factors for data analysis. However, a study by Weaver, Watson, Cashwell, Hinds, and Fascio (2004) divided students by gender and concluded that there was no difference in task persistence of males and females when they received either ability or effort-based praise. While some males persisted more than females, was based on the learning condition they experienced. The students were placed into two learning conditions. The first learning condition was the "performance goal orientation" which is when students view activities as tests. The second learning condition in this study was the "learning goal condition, which is when students view the activities as opportunities to increase their competence at an activity and improve upon their skills.

This is consistent with Solmon's findings (1996). He divided students by gender, and then by the same type of learning conditions as Weaver et al. (2004). The two goal theories were named differently in Solmon's (1996) study. The students were divided into a task–involved goal where students work to improve their own individual performance, and an ego-involved goal where individuals compare their performance to others. The atmosphere the researcher instructed the teacher to create created these goal theories. Results showed that the males were more persistent in the ego-involved goal setting than females were. However, similar to Weaver, et al. (2004), the males persisted based on the learning condition; this does not mean that the males would persist in other learning goal conditions such as task-involved goal

perspective or in an atmosphere without the certain learning conditions discussed above.

As noted, many studies of task persistence have looked at males and females as a combined population, however, there have not been many studies that looked at the specific differences in persistence between males and females as individual groups outside of the known learning conditions discussed above. Studies have looked at persistence with regards to combining males and females and only separating them by factors such as age (Martinek & Griffith, 1994), and performance condition (Hole & Crozier, 2007), in addition to other factors, but not with regards for gender.

Teacher Gender. Valjia and Kumar (2009) concluded that, based on surveys from female students, one of the teachers in the study was perceived by the female students to favor boys over girls. Teachers may not even realize they are giving this type of preferential treatment to males. However, if studies made teachers aware that this situation exists, more can be done to change the dynamics in the physical education classroom. The gender of the teachers can affect the overall setting of the class, which can affect student performance and enjoyment. Murcia (2005) concluded that all students, male and female, who have a female physical education teacher, have higher task persistence than students with a male teacher because the female teacher creates a more highly motivational environment.

Teacher Perceptions/Interactions

The influences of teachers on student performance are multiple and complex and their expectations play a role in student achievement (Cooper et al., 1979). Teacher perceptions can have a subtle influence that some believe are related to student motivation (Ennis & McCauley, 2002). Sometimes, teacher's beliefs about students' abilities are correct. However, teachers often base their expectations of individual students on how the teacher perceives those students' competence and ability, not necessarily on their student's actual skill or ability. Teachers can often bring their positive and negative perceptions of students into the classroom, affecting student learning and motivation (Ennis & McCauley, 2002; Watts & Caldwell, 2008). Teachers need to have expectations for their students and the physical education classroom as a whole. Expectations need to be reasonable and attainable in order for students to realize that they are valued in the classroom (Ennis & McCauley, 2002). Teachers need to take each individual student into account when defining expectations. In a study by Hopkins (1999), 87% of the school administrators interviewed agreed that students need expectations set for them, and those expectations need to be clearly defined.

A theme that has been examined extensively in the literature, with regards to teachers' expectations is the "Teacher Expectation Effect" (TEE). The concept of TEE was originally discussed by Good (1987). Trouilloud, Sarrazin, Bressox, and Bois (2006), after reviewing the literature, came up with an overall definition. TEE occurs when a teachers' expectation about a student has an affect on the teacher's

interaction with the student in a manner that leads the student to fulfill the teachers' expectations. Teachers' expectations in this case could be positive or negative expectations and the students could increase or decrease their perceived competence based on the nature of these expectations.

Teachers can allow their personal feelings to affect their perceptions. For example, a teacher may not be fond of a particular student and thus, always expect that student to fail regardless of how competent the student is at a task. These perceptions can, in turn, effect a student's level of perceived competence when the student feels less able based on how the teacher interacts with that particular student (Trouilloud et al., 2006). Again, this is not to say that teachers should have the same performance expectations for lower skilled students as higher skilled students. Teachers must, however, understand their students' skill level and set expectations for that specific level. Trouilloud et al. (2006) concluded that teachers' expectations of their students early in the school year, predicted the students' later perceived competence assumed and their success throughout the school year. This is consistent with findings by Rubie-Davies (2006) concluded that students' self-perceptions changed over the course of one school year. These changes were attributed to teacher expectations. In the Rubie-Davies (2006) study, the self-perceptions of students grouped as "high-expectation" and "average-progress" students, actually increased from the beginning to the end of the school year. In contrast, the self-perceptions of students that were grouped as "low-expectation" students decreased from the beginning to the end of the school year. This was attributed to how the students

responded to their teacher's interactions with them. The interactions the teachers had with the students were based on the teacher's perceptions of those students' abilities.

Teachers cannot allow their expectations of their students to interfere with the students' success in the classroom, especially if the expectations are inappropriate. They can embrace student differences, plan their lessons around those differences, and work with each student to help them be successful and achieve their goals. Just because a student may have lower skill than other students does not mean that student should be treated as if they are unable to succeed. The way teachers perceive their students is an important consideration in setting up a positive and effective learning environment (Smith & St. Pierre, 2009; Velija & Kumar, 2009).

Feedback

Feedback is an important part of a lesson, regardless of whether or not a student can perform a task. Feedback is defined as specific descriptions and suggestions that reference a students' work (Brookhart, 2008).

There are four types of feedback that relate to the current study. These include general, positive specific, corrective specific, and negative feedback. All types of feedback are important and may have an impact on learning, depending on the nature of the feedback made by the teacher. General Feedback is vague and the person receiving the feedback does not have anything specific to use for future reference (Duke Corporate Education Staff, 2006). Positive Feedback implies satisfaction with the learner's performance (Askew & Lodge, 2000). Corrective Feedback is when a teacher identifies something that the student needs to change with regard to the skills

or activity those students are doing and tells the student how they can fix it (Tzetzis, Votsis, & Kourtessis, 2008). Specific feedback is when teachers avoid pointing out errors in students ability, and only give feedback on what the child was asked to focus on (Clarke, 2000) Negative feedback is erroneous responses where the teacher identifies what the student did wrong (Ball, et al., 2010).

The different types of feedback, and how they affect students involved in specific physical education activities, needs to be examined in detail. One type of feedback that has been examined in detail in the literature is positive feedback. If positive feedback is used as a learning strategy that is specific to the students in the class, males may obtain feelings of competence and females could reduce the social anxiety that is commonly seen with females in physical education (Ridgers, Fazey, & Fairclough, 2007). In addition, when students receive positive feedback they persist for longer at a task, and also take ownership of their actions (Askew & Lodge, 2000).

Tzetzis et al. (2008) noted that corrective feedback is when a teacher provides feedback that can help a student improve a skill. Ridgers, et al., (2007), also noted that corrective feedback as a type of feedback and is important for teachers to use as a tool to help student performance and engagement. If teachers use corrective feedback, they should extend the activity based on the students' ability and skill levels, especially if there is a student who is trying an activity that is too difficult or easy for him or her. Ridgers, et al., (2007) concluded that it is important to provide the appropriate type feedback for a particular person doing a particular activity, based on the nature of that activity. For example, if a student is throwing a ball at a target on

the wall and is having a hard time hitting the target from the distance at which the teacher instructed the class to stand, the teacher can correct the student's technique and have them move closer to the wall.

Clarke (2000) stated that teachers cannot focus on errors they see in a students overall performance, but need to provide feedback only on what the student was asked to do. For example, if a student was asked to step with the opposite foot of the hand they throw with when throwing a baseball, the teacher should only give feedback when the student steps with the opposite foot i.e. "Good job stepping with your opposite foot."

Ball et al. (2010) identified negative feedback as erroneous responses where the teacher identifies what the student did wrong. The researchers wanted to determine how the positive and negative feedback affected students' development of analogical reasoning skills. They concluded that students who received erroneous comments that focused on what they were doing wrong, actually improved on their reasoning abilities over the course of the study when compared to students who received positive feedback. In addition, the students showed a steady decrease in the use of incorrect strategies as a result of receiving negative feedback.

The different types of feedback discussed can impact students in numerous ways and it is important to examine and understand feedback and its effects in order to help improve students learning and their success in the physical education classroom. Feedback is strongly associated with the motor and cognitive engagement of students in activities (Zeng, Leung, Liu, & Hipscher, 2009). In addition, if students

receive feedback, they can recognize that constructive criticism is a positive concept and can also learn that they need to practice to become better at a skill or an activity (Brookhart, 2008).

There are many factors that need to be taken into consideration with regards to providing feedback to students. Positive reinforcement can be effective because it encourages students to try and use new skills effectively by reinforcing both improvement and success (Downing, Keating, & Bennett, 2005). Teachers, therefore, should provide feedback that will motivate and encourage students. Teachers need to consider the type of skill the student is utilizing as different types of feedback can have different effects based on what the feedback is being provided for. Teachers should be aware that the type of feedback that may be effective for one skill, may not be effective for another (Tzetzis, et al., 2008). For example, students improve at easy skills when positive feedback or correction cues are given. When students are performing more difficult skills, corrective feedback alone helps the students improve skills the most (Tzetzis, et al., 2008).

The number of years of experience and other professional accomplishments of the teacher can effect how those teachers provide feedback to students and the type of feedback they use (Zeng, Leung, & Hipscher, 2010). Zeng et al. (2010), performed a study where they examined three types of teachers. The first type of teachers were specialist teachers (ST) who were teaching at colleges or universities and had advanced degrees in teaching behaviors. The second type of teachers were in-service teachers (IT) who had a bachelors degree or higher and were currently teaching

physical education. The last type of teachers were pre-service teachers (PI) who were still in college studying education. One of the results indicated that the specialist teachers appeared to give more feedback than the in-service teachers' and pre-service teachers. In addition, the students who were taught by the specialist teachers were involved more in cognitive activities than students who had the other types of teachers.

Sometimes teachers are more comfortable creating a warmer environment for their more competent students (Cooper et al., 1979). Students who are considered to have high-ability often receive more feedback than low-ability students, and generally, show more improvement in their skills as the school year progresses (Rubie-Davies, 2006; Trouilloud, et al., 2006).

Teacher interactions with their students, beyond verbal feedback, are complex and can be viewed and discussed in numerous ways. Providing feedback is not the only interaction that occurs between teachers and students. Importantly, teacher proximity to the learners can relate to feedback. When teachers give feedback it is important to understand the potential impact that the presence of the teacher has on the learner. Verbal feedback will, in most cases, occur when the teacher is near the student. Further, students are more likely to be on task when the teacher is in close proximity to them, even if the teacher is not verbally interacting with them (Patterson & van Der Mars, 2008). Once the teacher moves away from the student and is not engaging them verbally, students often become off task. Patterson and van Der Mars (2008) study concluded that when teachers provide verbal promotion of physical

activity across the gymnasium [to distant students far away from the teacher], a greater percentage of students were engaged in moderate to vigorous physical activity (MVPA). The authors concluded that combining the effects of teacher proximity and feedback provided, reflect the definition of "with-it-ness." Since the teachers were holding the students accountable by employing active supervision, a larger percentage of students increased their task engagement. This is also consistent with conclusions by Ryan and Yerg (2001) whose study concluded that when teachers provided verbal feedback from a distance, the students were on task. Another strategy teachers could use would be a public address (P.A.) system. In a study by Ryan, Ormond, Imwold, and Rotunda (2002), they concluded that the number of students off-task decreased when a P.A. system was used to provide feedback versus not using a P.A. system.

As it is difficult for teachers to always be in a close proximity to their students, if they can verbally engage their students from a distance, students are more likely to be on task and thus be successful. Teachers who can show their students that they care about them, and are enthusiastic about what they are teaching, can affect the enjoyment of students in physical education (Smith & St. Pierre, 2009).

Summary

Administrators and physical education teachers need to take task persistence, gender interactions, teacher expectations/interactions, and feedback into consideration and design curriculum and lessons in which all students can feel capable and view themselves as valued members of the classroom. This study hopes to determine how teachers' expectations of students, gender interactions, and feedback all affect the

students' persistence on a task. In the past, studies have been done that have focused on the reasons why students persist. Past researcher have looked at each individual factor including teacher interaction, teacher feedback, and gender interactions. However, there is limited research that investigates all three of these factors simultaneously. In addition, studies on persistence have traditionally grouped males and females together for data analysis and not looked at them as separate groups. This study will group males and females for some analyses, but this study will also examine males and females individually.

CHAPTER 3

METHODOLOGY

The purpose of this study was to answer research questions pertaining to the relationship between teacher expectations and persistence, gender interactions related to persistence and expectations, and if teacher feedback had an impact on learner trials at a novel motor task by 3rd and 4th grade students during physical education instruction. Data were analyzed in relation to the following null hypotheses: (1) the relationship between persistence and teacher expectations is zero, (2) gender interactions do not exist for teacher expectations and learner trials, and (3) feedback is not associated with learner persistence during a novel motor task in physical education. Also, before data were collected in the school district, pilot work was done and approval from primary researcher's thesis committee, The College at Brockport

Institutional Review Board (Appendix F), the school district representative, and the building administrator of the testing site were received. The following chapter is divided into five sections, which include (1) Participants, (2) Instrumentation, (3) Data Collection Procedures, (4) Pilot Work, and (5) Analysis of Data.

Participants

Twenty-eight participants included children engaged in a physical education task style teaching lesson. The demographics of the students were 28 students, 26 Caucasian students and 2 non-white students. Consent was gained from these children and their parents to take part in the study following procedures approved by the Institutional Review Board (IRB) at The College at Brockport. Following analysis of video recordings, two Caucasian female children were removed from the sample due to a malfunction of video equipment which resulted in a final sample of 26 students (24 Caucasian students and 2 non-white students), which was comprised of 11 males and 15 females in the 3rd and 4th grade at a suburban elementary school in Western New York State. Two physical educators, one male teacher, and one female teacher allowed students in their class to participate and agreed to have their feedback statements used for this study. Consent was also gained from these teachers. The mean age for the sample of students was 114.29 months (SD = 11.8 months). Females (M=113.80 months, SD=10.38) did not differ in age from males (M=115.11 months, SD=11.46). The participating sample included children who had no prior experience with the Wobbler Board used as the novel motor task for this study. The consent forms utilized in the current study were approved by The College at Brockport IRB

and are found in Appendix G. The phone number and e-mail addresses for the primary researcher and the faculty advisor have been removed from the consent forms for purposes of this written paper, but that information was included when the forms were distributed to the administrators, teachers, parents, and students.

Instrumentation

Several instruments were used to collect data in this study. These included a rating scale for teacher expectations and attention span and a coding measure was developed to assist in collecting task persistence and estimating observer agreement for trials attempted by children during the study (Appendix B). In addition, an instrument was used to code feedback statements that were provided by the physical education teachers to the students.

Teacher Expectations. Expectations for how students persisted following initial failure at the novel motor task were studied using the *Student Success Rating Scale* (Appendix C). This rating scale was developed by the primary researcher to measure the physical education teachers' perceptions of their students' success at a novel motor task. The primary researcher showed the physical education teachers' how to perform The Wobbler activity, the ultimate goal of the activity, and explained the rules of the board. The teachers were then asked to rate, on a scale of 1-10, how successful each child would be at getting the ball into the middle of the maze. The scaling included the following descriptors 1-"Unlikely to succeed," 2-"Will succeed," and 3-"Will succeed easily." Pilot work was conducted on the *Student Success Rating Scale* (Appendix C) and involved having two teachers fill out the rating scale

twice on their children with a two-week retest interval. The resulting estimate of reliability supported the use of this rating scale for teacher expectations for success (r_s =0.78, p <.0.01).

Attention Span. Classroom teacher perceptions of their children's ability to remain focused on a task was a key study variable to rule out any rival hypothesis related to differences between children that may be solely attributed to attention span. This was a recommendation by Kozub (2002) who cited that attention span was an important consideration to help researchers interested in further understanding why some children persist more than others at novel motor tasks. The *Classroom Attention Span Rating Scale* (Appendix D) was a measure developed by the primary researcher to study students' general attention span when it comes to classroom performance. The classroom teacher was asked to provide this information to avoid duplicating physical educator responses related to expectations. The use of the classroom teacher as a rater allowed for an independent appraisal of attention span of these 3rd and 4th grade children. The following three point Likert type scaling was used: 1-"Less Than Average," 2-"Average," and 3- "More than Average," with specific descriptions of how each rating was defined by the researcher (Appendix D). Again, pilot work was conducted using two classroom teachers and a two week test retest procedure. This resulted in an encouraging estimate of reliability for the measure used to examine attention span (r_s =0.78, p <0.01).

Student Task Persistence. The *Student Observation Sheet* (Appendix B) was used to record task persistence for each participant on The Wobbler board from

videotapes, and for those participants (during the lesson) whose parents did not consent to videotaping. A trial was defined as every time the participant put the ball at the front the board and attempted to mount the board with one or both feet. A trial ended when the participant stepped off the board, the ball popped off the board, or the ball dropped through a hole in the board. Every time the participant stepped on the board, the coder recorded that as a trial. In addition, there were three holes drilled in the Wobbler board that made the task difficult for this age group. Pilot work for the development of this instrument was done by videotaping an undergraduate physical education methods class and developing a user-friendly system to record tallies and important information about the task (Appendix B).

Observer reliability checks were done to ensure that accurate observations were made and both researchers coded trials under the same criteria using the video recordings. A second member of the research team scored the trials of 11 randomly selected participants using the videotapes and compared the number of trials with those same 11 students that the primary researcher coded. Based on these comparisons, an observer reliability agreement of 92% was found. A book chapter by van Der Mars (1989) indicates that an observer agreement score of 92%, which was achieved, indicates an agreement between coders that supports the reliability of the values.

Teacher Feedback. A tally sheet (Appendix E) was developed for this study to measure how teacher feedback and interactions affect student performance on the task from the videotapes of the students. To do so, the teacher's interactions with the

students needed to be recorded. Using the verbatim transcriptions from the audio and video recordings, a tally was marked in specified boxes every time a teacher gave verbal feedback to the student during the target motor task. Further, during data collection, a sheet containing student pictures (Appendix H) was used to help the researcher keep track of which students received feedback. Using a coding system and student pictures, the researcher was able to further document the nature of the feedback afforded to students. This procedure allowed for collection of feedback to participants at the Wobbler station and ensured that later feedback analyzed using teacher audio taping (off camera) did not get confused with feedback given to participants at other stations and those who were not a part of the study sample.

Later, the classroom coding was compared to the audio transcripts of the lesson focusing on the study participants participating in the Wobbler activity. This included the four types of feedback identified in chapter one. Percentages for each type of feedback were calculated on the tally sheet to see what percentage of each feedback each student received. Feedback provided to all students at all of the stations throughout the whole class were transcribed, coded, and coded. For study data analysis purposes, only feedback given to study participants during the Wobbler station was used in the data analysis to answer the research questions. This was done to remain consistent with review board protocols on data collection for this study. The four categories of feedback outlined in chapter one were used for feedback coding and later data analyses.

Data triangulation results and observer agreement for the coding of feedback was performed before data analysis. Prior to analyses of feedback data, observer agreement was calculated from the transcripts for all of the physical education classes. Two raters (including the principle investigator and a second investigator) coded all feedback statements from the all classes into the four feedback categories identified for this study. During initial observer reliability calculations, a 72% agreement was found and Miles and Huberman (2004) indicated that this is an acceptable agreement for initial observer reliability checks. Following discussion of sources of disagreement, it was found that one coder was classifying questions as feedback statements. To remain consistent with published literature on feedback and operational definitions found in chapter one, these question statements were then removed and observer agreement was recalculated resulting in an 80% agreement for these data. This level of agreement after discussion between the two coders is acceptable based on Miles and Huberman's (2004) book chapter on qualitative data analyses.

Data Collection Procedures

Videotaping was used to record raw data to be used for data analysis and to obtain estimates of reliability. The videotapes were focused only on the participants' feet while he or she was engaging in the Wobbler board task. This allowed the primary researcher to accurately record student trials on the board. The videotape, along with a wireless microphone, was used to record the physical education teacher's feedback to the students during the lesson. Video cameras were only placed

at The Wobbler station and did not record any other activity stations. The video camera remained in the classroom during the entire lesson.

The researcher made every attempt not to interfere with the lesson by staying back and not engaging with the students during trials. Since videotaping was only allowed on consenting children, and the researcher had to listen to the teachers' comments through the earpiece attached to the video camera, the researcher had to sit by the Wobbler station but did not engage with the students or provide feedback to the students' attempting the motor task. In addition to feedback recording, five students and their parents consented to allowing the participants to take part in the study but not to appear on video recordings. For these students, the primary investigator tallied trials, and feedback on site. In all cases, data collection occurred only once for each 3rd and 4th grade student who participated in the study, to ensure that the activities and amount of time spent in the gymnasium for the study created only a minimal amount of disruption to the physical education curriculum. Along with the target task (Wobbler board), the investigator set up four stations for the physical education classes (Appendix I). These tasks were consistent with recommended lessons using stations or task style teaching for 3rd and 4th grade children. An activity script (Appendix J) was used to explain the activities at the stations to the students, which is a pre-written script of specific instructions to ensure that all students received the same instructions.

For the lesson used to collect these persistence and feedback data, the teachers were asked to engage in stations or task style instruction as they would normally

interact with their students and asked to move freely around the gymnasium. Teachers were instructed to conduct their class as normal to minimize negative effects on the natural class environment and to also allow for accurate supervision of students not participating in the study since there was only one physical education teacher present during a lesson. Each participant engaged in the Wobbler game was given the opportunity to attempt to move a ball through a maze by balancing on the board with their feet and attempting to get the ball into a circle in the middle of the board as many times as he or she liked during the lesson. Explanations for all of the stations are found in Appendix J. Station signs (Appendix K) were placed at each station so the students were able to identify the activities at the stations. The researcher explained all of the activities to all students in the classroom at the beginning of the class using the activity script (Appendix J).

Station one was The Wobbler task station used for data collection, and the other three stations were placebo stations, a throwing task, a kicking task, and a jump rope task. A task style approach to teaching was used where the teacher allowed the participants to engage in the learning activity stations. All students started the class by engaging in the activities at the three placebo stations. The students were able to choose which of the three placebo stations they wanted to participate at and were able to move freely between the stations.

The only station students were not able to move freely to was The Wobbler station. The first participating students in each class were called over individually to do The Wobbler task at the station. Students were allowed to attempt the task and

persist as for as long as they wanted to; there was no time limit. When the student no longer wanted to persist, they raised their hand and the primary researcher gave the student a name of another participating student that had not done the activity yet. The student who just finished the task went to get the next student, and sent the next student to The Wobbler station to take their place. This was so the primary researcher did not have to keep interrupting the class to call students over. Each board was assigned a number and that number was taped to the floor in front of the board so as to avoid confusion as to which board students should be at. The numbered boards also helped with viewing of videotapes later and allowed for clear identification of students. When a student left to grab another student they were instructed by the researcher to say, "Can you go to board # __?" and would tell the new student what number board to go to. Once a student got a replacement, they returned to participating in the other placebo activity stations. At the beginning each class, the researcher informed the students that when they got to the Wobbler station, they should begin right away and were told to not check in with the primary investigator because the primary investigator would be aware that the student was coming over.

Stations two, three, and four were the placebo stations. Station two was a throwing activity that was played like horseshoes called the beanbag toss. Each student had two of his or her own individual color beanbags. The beanbag choices were red, yellow, green, blue, orange, and purple. There were three hula-hoops in a vertical line set on the ground with one cone set-up across from the hula-hoops approximately 5-10 feet from the closest hula-hoop. There was a piece of tape next to

the cone that the students had to stand behind when throwing. The students stood in a straight line behind the cone. Each student got two beanbags and took alternating turns attempting to throw the beanbag at the hoops from behind the tape and tried to land their beanbags in the hula-hoops. After a student threw one beanbag, they returned to the end of the line and waited for a second turn to throw the second beanbag. Each student had two throws per round. Each hula hoop had a point value. The closest hula hoop (blue) was one point, the middle hula hoop (yellow) was two points, and the furthest hula hoop (red) was three points. Once all of the students threw both of their beanbags, the students went and found their beanbags and added up how many points were scored with the beanbags by looking at which hoop their bean bags were in or touching. If a bean bag was sitting on two hoops, the students were instructed to use the hoop with the lower point value. The number of total points was the students' score for that round. The student who had the most points won. If students tied, that was ok. Beanbags outside of the hula hoops were worth zero points. After the students added up their score, they collected their beanbags, returned to make a line behind the cone, and started a new round. The students started each round with zero points so that students could come and go between rounds. There was a sign posted on the wall (Appendix L), so the students could remember the point values of each hula-hoop.

Station three involved a kicking activity. The kicking game was a score on the goalie game. This was a game that was a current part of the curriculum for the students at the elementary school. The students stood in a line behind a cone and took

turns one at a time kicking a soccer ball at a goal and attempted to get the ball in the net to score a goal. There was one student that was playing goalie. The kicking student had to set the ball on the green dot on the floor and kick the ball from there. If the kicking student kicked and did not score (missed the goal or the ball was stopped by the goalie), the kicker went to the end of the line and waited for their turn again. If the kicker scored a goal, the student who was the goalie went to the end of the line to become a kicker and the student that scored the goal became the new goalie. During the game, the student who was the goalie always remained the goalie, even if it was for numerous turns, until another student scored on the current goalie.

Station four was a jump rope station. Students were able to choose seven, eight, or nine foot ropes. The students knew what size rope to use because they had a jump rope unit before. The jump ropes were in plastic bags and when the students got their jump rope, the bag had to be put in an empty box designated for the empty bags. There was a designated square area marked by cones that the students had to stay in when jump roping so as to not interfere with the other stations and students moving around the gymnasium. After the students were done jump roping, they had to fold the jump rope the appropriate way the teachers taught the students, put it in the bag, and put the bag back in the proper container. The students were able to practice jump roping skills and tricks they had learned in physical education. The tricks the students practiced were the cross, backwards jumping, swinging the rope, double jumps, and any other tricks the students knew. For the cross, the students had to try to cross the jump rope in front of them and jump through it. For backwards jumping the students

moved the rope from front to back and tried to jump when the rope reached the back of their heels. For swinging the rope the students held one handle in each hand and swung the rope from one side to the other. With the double jumps, the students tried to get two rotations of the rope for every one jump.

Pilot Work

Pilot Work was conducted using a college physical education major's undergraduate physical education methods class at a college with a large physical education teacher education program in the north east. The researcher read the *Activity Script* (Appendix J) to the students in this methods class and determined effectiveness and clarity based on how the undergraduate students responded performing The Wobbler activity. The students' performance was then observed and the researcher made notes about the students' performance to determine clarity and completeness of instructions. Instructions were modified for data collection at the study school based on these findings.

The undergraduate college students performing The Wobbler task were recorded on video and the researcher practiced recording observations and data using the videotapes from the methods class. The researcher did not have set board assignments for the students in the class that were prepared ahead of time and it was difficult to keep track of which students were on which boards on the videotape because the video was only of their feet and the primary researcher did not know the students. Also the students were being called over at random and the primary researcher was trying to write down names and keep track of where each student was.

This problem was solved for the data collection at the elementary school used for data collection. For data collection at the elementary school used in this study, the primary researcher took all of the consenting students and assigned them to boards ahead of time. In addition, each board had a piece of paper with a number on it taped to the floor in front of the boards so that it was easy to define which student was on which board during the on site data recording, and during later analysis of the videotapes.

Analyses of Data

Data were initially analyzed using descriptive statistics. Spearman *r* correlation coefficients were used to determine relationships between teacher pre task expectations and later child task persistence. Spearman *r* correlation analysis was also used on classroom teacher attention span ratings and the physical education teachers' student success ratings to determine the contribution of these perceptions to explain variance in trials attempted. For the research question related to gender interactions, separate correlations and t tests were run on the gender of teacher and the gender of participants where sample size allowed. Further, correlations on male and female ratings of their students, and types of feedback interactions were studied again using Spearman r correlation analysis.

Summary

The methods described in chapter three are designed to help the researcher explore the research questions of interest and examine the null and research hypotheses. As stated in chapter one, these research questions included relationships between teacher expectations prior to the task and eventual trials by each child from

3rd and 4th grade physical education lessons, gender interactions with trials and feedback, and finally the role that feedback plays in explaining persistence behavior in the study participants.

Chapter 4

RESULTS/DISCUSSION

This chapter is divided into two sections. The first section presents the results in order to help the reader understand the findings related to how the study variables affected task persistence of students. These variables included teacher expectations, task success, gender interactions, and the impact that feedback had on learner trials. The second section includes a discussion of the key study findings in relation to the research hypotheses and existing literature.

Results

Following examination of reliability of measures, as described in chapter three, results included an analysis of the effect of teacher expectations on students' success, or trials. Second, the results were analyzed in order to help understand if

gender interactions were present for pre-task expectations for these teachers based on whether the child was male or female. Additional gender interaction analysis regarding feedback provided by the teachers to the students was analyzed. Finally, data analysis regarding feedback and persistence are presented from a physical education class where learners are engaged in a novel motor task. In terms of this study, teacher A refers to the male physical education teacher, and teacher B refers to the female physical education teacher. The physical education teachers worked at the same school.

Teacher Expectations and Trials

Table 1, below, includes means and standard deviations for the key variables in this study. These include scores broken down by teacher gender and the male and female student participants who took part in the study during physical education classes. *Success Rating* refers to the physical education teachers rating of student success at the task. Success ratings yielded scores that range from 2 to 9. The rating of 2 is closer to "Unable to succeed" and 9 is closer to "Will succeed easily." Trials students had at the task resulted in scores that range from 3 to 83 trials. For attention span, students were rated by their classroom teachers from 1, "Less than average" to 3, "More than average," with a majority of the ratings being 2, "Average."

Table 1

Descriptive Statistics for Key Study Variables by Teacher ($N = 26$).

	Teacher A ($n = 17$)			Teacher B ($n = 9$)		
	Male children	Female Children	Total	Male children	Female Children	Total

		(n = 5)	(n =12)		(n = 6)	(n = 3)	
Variables							
Success	Mean	6.80	5.58	5.94	5.50	8.00	6.33
Rating	SD	1.64	1.51	1.60	2.17	1.00	2.18
# of Trials	Mean	17.60	25.08	22.88	12.33	54.67	26.44
	SD	10.69	16.13	14.82	4.76	42.34	30.17
Attention	Mean	2.40	2.00	2.12	2.17	2.00	2.11
Span	SD	0.55	0.60	0.60	0.98	0.00	0.78

Note. Teacher A is a male physical education teacher and Teacher B is a female physical education teacher. Both are from the same school.

Teacher Success Ratings. According to the total means for teachers' success ratings of male and female students in Table 1, the male and female physical education teachers had similar expectations for their student success. The male and female physical education teachers have the same expectations of persistence for their students ($t = 0.33, p > 0.05$).

Gender Interactions

Two factors were analyzed to determine if gender interactions existed. These included an examination of how teachers expected males to succeed compared to these same scores for female participants prior to attempting the task. In addition,

how these pre-task expectations are related to actual learner trials was also examined. In regards to success ratings by male and female teachers, Table 1 data analysis showed that, overall, male and female teachers have the same expectations of success for the students ($p > .05$). Further, teachers' pre-task expectations for success were compared to the participants' actual number of trials attempted on The Wobbler task. The null hypothesis was that there would be no interaction and that the teachers had the same expectations for males and females. When comparing if the physical education teachers ratings of their students predicted the students actual success based on the gender of the physical education teacher, no statistically significant relationships were concluded for either the male physical education teacher ($r_s = 0.07$, $n = 17$) or the female physical education teacher ($r_s = 0.53$, $n = 9$).

Feedback and Persistence

Feedback was classified into four different categories (Table 2 below). Prior to analyses of feedback data, observer agreement was calculated from the transcribed feedback from all classroom settings, as discussed in chapter three. Following observer agreement, correlations were run comparing the number of trials by the students and the feedback provided to those participants by male and female physical education teachers. These variables were categorized by teacher and participant gender. Only two statistically significant correlations resulted. First, a correlation was found for the male teacher and his female students' between total feedback (all of the feedback categories combined) and trials ($r_s = 0.70$, $p < 0.01$). The second correlation

was between total positive feedback (all of the feedback combined minus negative feedback) and trials ($r_s = 0.63, p < 0.05$).

For analyses of the feedback data, given the low sample size and lack of significant relationships between the different types of feedback, a decision was made to collapse the four original types of feedback used for coding into narrower categories of feedback (Table 2). Table 2 below includes all four types of feedback and the collapsed categories referred to as "total feedback" (combination of general, positive specific, corrective specific, and negative feedback) and "total positive" feedback (combination of all feedback other than the negative category). In Table 2, the mean scores for feedback are broken down into statements made by the male teacher (A) and the female teacher (B) during children's participation in the Wobbler task. All feedback to all students at all of the stations in the gymnasium throughout the class period were recorded and transcribed for observer agreement purposes. However, these data found in Table 2, and any feedback data analysis represent only feedback identified as being directed towards a consenting participant performing the Wobbler activity.

Table 2

Feedback from Male and Female Physical Educators

		Teacher A ($n = 17$)			Teacher B ($n = 9$)		
		Male children (n =5)	Female Children ($n = 12$)	Total	Male children ($n = 6$)	Female Children ($n = 3$)	Total
Feedback							
General	Mean	1.40	1.25	1.29	1.33	4.33	2.33

	SD	0.89	1.77	1.53	1.21	3.79	2.59
Positive	Mean	0.80	0.58	0.64	0.33	3.33	1.33
Specific	SD	0.84	0.52	0.61	0.52	3.06	2.18
Corrective	Mean	1.20	0.50	0.71	0.17	0.67	0.33
Specific	SD	1.64	0.52	0.99	0.41	0.58	0.50
Negative	Mean	0.20	0.08	0.12	0.17	1.67	0.67
	SD	0.45	0.29	0.33	0.41	2.08	1.32
Total	Mean	3.40	2.33	2.65	1.83	8.33	4.00
Positive	SD	2.70	2.06	2.23	1.47	7.23	5.00
Total	Mean	3.60	2.42	2.77	2.00	10.00	4.67
Feedback	SD	3.05	2.11	2.39	1.67	8.72	6.06

Note. Teacher A is a male physical education teacher and Teacher B is a female physical education teacher. Both are from the same school.

When examining the relationship between the different types of feedback and persistence, only negative feedback emerged as a significant predictor of task persistence (Table 3). Further, when collapsing all forms of positive feedback, an even larger magnitude relationship was found between these positive statements and persistence. Further as seen in Table 3, all types of positive and negative feedback were significant predictors of participant trials.

Table 3

Correlations between Key Study Variables for the Sample ($N = 26$).

	Success Rating	Trials	Total Positive Feedback	Negative Feedback	Total Feedback
Success Rating	------	.26	.25	.24	.24
# of Trials		-------	..70*	.49*	.71*
Total Positive Feedback			-------	.57*	.99*
Negative				-------	.64*
Total Feedback					-------

Note. *Correlations is significant at the $p < 0.01$ level (1 tail).

Discussion

Null hypotheses related to the relationship between teacher expectations and task persistence, gender interactions and feedback are discussed in the following section. Discussion concerning the research questions were focused on the effects of the different variables on task persistence in 3rd and 4th grade physical education students performing a novel motor task, which in this study, is The Wobbler task (Appendix A).

Teacher Expectations and Trials

Teacher Success Ratings (Pre-Task Expectations). Our null hypothesis was that there would not be a positive correlation between teachers' pre-task expectations and students' success. Success ratings are also referred to as pre-task expectations and measure the physical education teacher's perceptions of their students' success. Before the students performed the Wobbler board task, their physical education teachers ranked how they perceived each individual student's success at performing the Wobbler board task on a scale of 1-10 with 1 being "Unable to succeed," and 10 being "Will succeed easily."

Data in regards to task success indicates that there was no significant relationship between teacher's pre-task expectations, and the student's actual success, or the number of trials they had while attempting to complete the Wobbler task. Success ratings and trials were correlated for the total population of participants combining male and female participants, the overall entire male participant population, and the overall female participant population using Spearman *r* correlation without regard for teacher gender. For success ratings for the total population of students and its effect on trials, there is no significant relationship. The same result can be seen with overall success related to male students and overall total success related to female students. Therefore, we accept our null hypothesis.

Our findings are not consistent with a study by Trouilloud, et al.,(2006) which concluded that teachers' expectations of their students early in the school year predicted students' self-perceptions of themselves and those students self perceptions

changed over the course of the school year because the students became aware of the teachers perceptions and expectations. Students can become aware of their teachers expectations as teachers sometimes bring their positive and negative perceptions of their students' ability into the classroom and can affect the learning environment; this in turn can effect students (Ennis & McCauley, 2002; Watts & Caldwell, 2008). Some teachers may not even realize that they are having this effect.

Gender Interactions

Our null hypothesis was that there would not be a hypothesized gender interaction in favor of males, based on the literature on gender typing where males are believed to be more competent and persistent at motor tasks than females. Our null hypothesis also states that males will not be perceived by teachers as having a greater chance of success than female students.

We examined if the physical education teachers' had differing pre-task expectations and concluded that male and female teachers had the same expectations for their students, regardless of the student's gender. These findings are not consistent with literature that states that girls are perceived as being less physically capable than boys (Valija & Kumar, 2009). It appeared that both teachers rated their students on what they already knew about the students' skills and abilities. In addition, how the male and female teacher's rated their students' success, did not have any effect on the number of trials the students attempted. Based on our data analysis regarding gender interactions, we concluded that we do not have enough evidence in our data to

determine the effect of gender on feedback and trials; therefore, we accept our null hypothesis.

Feedback and Persistence

Our null hypothesis was that the type of feedback the physical education teacher provided to the students, would not affect the students' success, or the number of times the student attempted to complete the Wobbler task. Based on our data analysis, we rejected our null hypothesis since the types of feedback provided by the physical education teachers were positively correlated with the number of trials the students attempted. These data are consistent with findings by Zeng, Leung, Liu, and Hipscher (2009) who concluded that teacher feedback and teacher behaviors impact motor and cognitive engagement of students when they are performing activities. Student trials were significantly correlated with negative, total positive, and total feedback, which supports our null hypothesis. As stated, feedback and task persistence are related to the variables in the data, however, we cannot predict which came first, the feedback provided by the physical education teachers, or the task persistence of the students.

To study the impact of differences between male and female teachers feedback to their male and female students, a decision was made to examine these student teacher relationships separately by and compare each teacher, to the male and female students in the physical education teachers own classes. Data analysis demonstrated that the male teachers feedback affected how his female students persisted. However, this only occurred because these factor comparisons had enough

cases (n = 12) that made the value of r significant at $p < 0.05$. This helps us understand where the r^2 is coming from but we cannot draw any significant conclusions from this correlation.

As discussed above, a decision was made to collapse the individual feedback types into narrower categories given the available sample size and a desire to utilize existing data to address the research question of interest. Collapsing feedback allowed for examination into how teacher feedback, in general, impacted learners. These data demonstrated a very large relationship between teacher feedback and learner trials (Table 3). What is of note in these data are the relationship between the category of negative feedback and trials. For data analysis general, positive specific, and corrective specific were collapsed into one category, positive feedback, and negative feedback was left as its own category. However, this collapse into a positive feedback category was unnecessary data, even with the low sample size, because negative feedback was positively correlated with the trials by the students on its own. What is also of interest, is the low frequency of negative feedback given to learners during the study. Negative feedback was given, on average, less than one time per child and had a moderate relationship to trials (r_s=0.49). It appears from these data that negative feedback did not deter the students' willingness to persist. This is consistent with a study by Ball, et al. (2010), concluded that students that only received negative feedback from the teachers, actually focused on what they were doing incorrectly and actually improved in reasoning abilities, when compared to the students that received only positive feedback from the teachers. In addition, the students in the study by Ball

et al., (2010) also showed a steady decrease in the use of incorrect strategies as a result of the negative feedback they received from their teachers.

Total feedback and total positive feedback contributed equally to persistence based on the very strong relationship presented in Table 3. Further, the correlations between these two categories and task persistence, demonstrated that most of the feedback given was, in fact, positive to learners. Total feedback and total positive feedback are linear combinations of one another and represent the encouraging role that positive feedback plays in learner trials. This is inconsistent with the chapter review by feedback expert Rink (2006) concluded that feedback by itself is inconclusive, as a true learning variable, in impacting learning. These data in this study demonstrated that persistence or trials is positively impacted by feedback overall. Based on our data, children are persisting more when the teacher provides feedback and these finding are consistent with a study by Zeng et al. (2009) concluded that children persisted more when the teacher provided feedback. The role that persistence plays in learning is ripe for further study. The current findings did not analyze learning as a variable; however, it can be argued that a child cannot learn in physical education without trials. What is missing from these data and other persistence studies (e.g. Kozub, 2002) is the measurement of learning as children experience trials.

A final note on sample size is warranted for these data. The current study included a relatively small sample, which limited the data analyses. Multiple t tests found some significant results, but with more cases, and a multivariate model, other

interactive effects related to how teachers provided feedback, learners persisted, and teachers rated children prior to the lesson could be affected. As a result, many factors are left unexplored and ripe for further study.

Summary

The present study examined numerous variables that can affect task persistence. These included teacher pre-task expectations, gender interactions, and feedback provided by the teacher. Teacher pre task perceptions of their children did not predict actual trials. No conclusions could be made regarding gender interactions that males were not favored. The role that feedback plays in persistence appears to be an important factor. Children appear to need feedback of all kinds to continue to persist after initial failure.

CHAPTER 5

CONCLUSIONS

These data were collected to address research questions related to persistence of 3rd and 4th grade children engaged in a novel motor task during physical education class. Findings are presented in relation to how predictors of persistence resulted, if gender interactions, and the relationship between teacher feedback and trials. Finally, recommendations for future research are presented along with conclusions.

Findings

These data helped in the examination of how different variables impacted task persistence in 3rd and 4th grade students engaged in a physical education class. Based on the results of this study, teacher's pre-task expectations did not relate to task persistence in students, which is inconsistent with other studies that were examined

(Ennis & McCauley, 2002; Trouilloud, et al., 2006; Watts & Caldwell, 2008). As a result, we accepted the null hypothesis. Since the conclusions of this study regarding the effect of teacher expectations on task persistence are inconsistent with known literature, further study needs to be done to further understand this comparison.

There were also no identified gender interactions related to how teachers perceived each child's ability to succeed or in relation to how children actually persisted during data collection. Once again, we accepted our null hypothesis regarding this variable. Data analysis in this study found minor correlations that suggested gender interactions may have occurred, but there was not enough data to definitively conclude that significant gender interactions occurred, mainly due to the small sample size. If there was a larger sample size in future studies more definitive conclusions would be able to be made because more analyses could be run comparing gender interactions by using more participants. These findings are inconsistent with literature that states that girls are perceived as being less physically capable than boys (Valija & Kumar, 2009).

Finally, feedback emerged as the main predictor of student persistence during the study. Positive feedback was correlated with task persistence of students and negative feedback did not deter the participants from persisting. These findings further support existing studies (Ball, et al., 2010; Zeng, et al., 2009) that feedback has an effect on student task persistence. As a result, we were able to reject the null hypothesis for the feedback variable.

Future Research

Feedback is an area in need of more study, specifically in relation to persistence by children during physical education class. As discussed above, the role that persistence plays in learning is an interesting topic for future study. Although learning was not a variable that was examined in this study; however, a child cannot learn how to correctly do an activity without attempting or practicing that activity. What is missing from these data and other persistence studies (i.e. Kozub, 2002), is the measurement of learning as children experience trials. Learning could be measured using a pre and post-test. The students could fill out a form where they answer questions about an activity or a task that they are not familiar with. Next, the teacher could explain the task to the students and the students could practice the task during a class period or throughout a unit. After the student has had practice, they could be given the same questions and their answers compared to the answers on the first test.

Another consideration for future study regarding feedback is to examine how the experience level of the teacher is related to the type and amount of feedback used during instruction. Zeng, et al., (2010) concluded that specialist teachers (essentially, veteran teachers in higher education), gave more feedback than in-service teachers (teachers who were currently teaching in a school) and pre-service teachers (teachers who were still studying education in school). A future study of merit would be one where feedback was analyzed over a class period. Analysis of the feedback would consist of comparing the feedback that were given by the experienced teachers, to the

feedback made by the induction level physical educators to determine if some of the unexplained variance in persistence is related to when feedback is given, what type of feedback is given, and how feedback affects the learner. Children should be interviewed during data collection to determine what effect feedback has on learner motivation and problem solving. The effect of the teacher's professional experiences on task persistence could be a consideration for future study.

Another topic that would be interesting for further study would be to examine the range of feedback given to the students. Future studies could examine how much feedback was given initially at the beginning of an activity, such as The Wobbler board, and then how much feedback was given throughout the class. Do teachers give more feedback at the start of a new activity and then loose interest in providing feedback as the activity continues? This could be studied by examining students performing The Wobbler activity, in task style teaching setting, such as was used in this study, throughout an entire class period. On a coding scale with time intervals, the researcher could keep track of the time with a watch and mark on the scale when a teacher provides feedback to a student. After, the frequency of feedback for the different time intervals could be tallied up and then compared to see what points of the class had the most feedback given. The same scale could be used in multiple, different classes of students, and the results of the tallies of feedback for each class, based on the time intervals could be compared. Future studies into other topics besides feedback can also be examined.

Because the classroom teachers and the physical education teachers filled out their rating scales in the spring when the students had been in school for an extended period of time, the teachers were very familiar with the students' abilities. If the teachers had filled out the rating scale in the fall, when they were still getting to know the students and their abilities, would the teachers fill out the rating scale differently? A longitudinal study that compares the teachers rating of student success and attention span at the beginning of the year, compared to the end of the year, could be an area for future study. For example, the teachers could use rating scales where they rate their students after only having them for a few weeks towards the beginning of the school year. The teachers could rate factors such as attention span, student's ability to succeed and student attitude. The teachers could then fill out the rating scales again throughout the year (i.e. once in the winter, half way through the school year, and once again towards the end of the school year). Teachers could also provide reasons as to why they gave students the ratings they did at each point in the year. The various teacher's ratings of the students and written explanations could then be compared for any differences in ratings and reasoning throughout the year.

One factor that was not examined in the current investigation was if the teachers were already aware of the Wobbler task and how to perform it. Because they did not teach it in their curriculum, does not mean that they were not aware of the activity or how to perform it. Would knowledge like this affect their ratings of student success? Would a teacher familiar with a task, rate student success differently than a teacher who was not familiar with the task? Teachers may have more realistic

expectations for their students if the teachers understand a task or activity, especially if it is difficult one. A list of activities could be provided to the teachers and could rate how comfortable they were with activity and how much knowledge they felt they had about each activity. The teachers could then rate the students on each activity and those teachers' ratings of student success could be compared with their familiarity of the activity.

The topic of motivation was briefly discussed in the literature review, but was not a variable that was examined in this study. How motivation effects task persistence, along the lines of Weiner's attribution theory and other motivational factors could be examined. In this study, data were collected on teacher expectations and feedback and the effect they have on persistence in this study. A topic for future study would be to examine how external factors in the gymnasium affect students' motivation and task persistence. These external factors could include, teacher interactions, along with social interactions with other students in the classroom. In addition, what effect do these factors have on intrinsic motivation and perceived autonomy? A student performing a task may be concerned with task mastery and want to complete the task. The students perceived autonomy or their reasons for performing a behavior, can effect the students willingness to perform a task (Choo, Weinstein, and Wicker, 2011).

These factors and the interactions mentioned above could be studied by measuring students perceived autonomy before and after performing a task and examining the type of feedback or conversations that the student has with their

teachers and other students. Researchers could also interview students about how they felt before, and after they performed the task, and why they felt the way they did about their perceived competence and performance. Interviews could help provide reasons for why a given student did or did not persist. Another extension that would be interesting would be to measure the effect of these external factors on student intrinsic motivation and autonomy over an extended period of time and measuring these factors using students doing different activities throughout the time period. Review of literature of past studies could be used to formulate specific factors to focus on and to help formulate conclusive interview questions.

This current study did not examine reasons as to why students stopped performing The Wobbler task; it only examined the number of trials a student did, not the reasons behind the number of trials. Some factors could affect a student's persistence and those factors could be examined in future studies. For example, students may have been more interested in the other stations in the gymnasium than The Wobbler station. Therefore, the student may have only attempted The Wobbler activity a couple of times, and then stopped because they wanted to do another activity they enjoyed more. It is not an accurate measure of their actual persistence and it is possible that they may have persisted longer if the other activity they were more interested in was not present. This could be examined by having the students circle what their favorite activity was at the end of a class period and explain why they enjoyed the activity at that particular station more than the other stations.

Lastly, another topic that would be interesting for future study would be how the demographics of a school affect a teachers rating of student ability. Teachers from one demographic, could rate students in another demographic. For example, a suburban schoolteacher could rate the students in their own suburban school, and then observe a class in an urban setting and rate the students in the urban setting.

Summary

This study was a replication of earlier research by Kozub (2002) who studied persistence using the same novel motor task in an isolated setting. The current study examined persistence in a more naturalistic context. In conclusion, the current study concluded that persistence can be measured in 3rd and 4th graders and that teachers are influential in how children persist through their use of feedback. More study is needed to determine if persistence is influenced in all physical education settings by teacher expectations, sociocultural constraints, and teacher feedback.

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APPENDICES

Appendix A

Wobbler Board Task

Wobbler Board Task

Appendix B

Student Observation Sheet

Student Observation Sheet

Student Name: _____
Classroom Teacher: _____
Physical Education Teacher: _____
Participant ID #: _____

1. Number of attempts: How many times did the student attempt the Wobbler board task before completion or stopping?

Number of attempts at task (Tallies)

Row 1: Number of attempts
Row 2: Hole ball fell out of

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Total number of attempts: _____

Appendix C

Student Success Rating Scale

Student Success Rating Scale

Teachers Name:

_____

Names and teachers of students are for the researchers purposes only and nobody else but the researcher will see these sheets and names will be removed when the study is written

Please rate the following students on how successful you feel they will be at the task I have described and shown to you.

Student Name		Unable to succeed				Will succeed with a struggle					Will succeed easily
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10
Last, First		1	2	3	4	5	6	7	8	9	10

Appendix D

Classroom Teacher Attention Span Rating Scale

Classroom Attention Span Rating Scale

Classroom Teacher's Name: _____

Names and teachers of students are for the researchers purposes only and nobody else but the researcher will see these sheets and names will be removed when the study is written

Please rate the following students on their attention span in the classroom during a lesson using the following descriptions:

1-Less than Average: Frequently attempts a task again after initial failure (More than 3 attempts).
2-Average: Occasionally attempts a task again after initial failure (No more than 2-3 attempts).
3-More than Average: Rarely attempts a task again after initial failure (No more than 1 attempt).

Student Name		**Less than Average**	**Average**	**More than average**
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3
Last, First		1	2	3

Appendix E

Feedback Tally of Teachers

Feedback tally of teachers

Physical Education teacher: _____
Student interacting with: _____

Teachers will be observed for the following types of feedback:
General: Feedback that is not specific or detailed (Example: "Great job!")
Positive Specific Feedback: Constructive criticism using encouragement (Example: "Billy, that was a good hit with the bat, but next time follow through and the ball will go even further!)
Specific Corrective Feedback: Constructive criticism that focuses on a specific part of a behavior (Example: "Step with your opposite foot when you throw the ball.")
Negative: Providing feedback in an unhappy, discouraging, or angry manner (Example: "That was wrong, try it again.")

General	Positive Specific	Corrective Specific	Negative

Number of feedback:

General: _____
Positive Specific: _____
Corrective Specific: _____
Negative: _____
TOTAL: _____

Percentages (Individual number of feedback totals/total number of feedback for session):

General: _____
Positive Specific: _____
Corrective Specific: _____
Negative: _____

Appendix F

The College at Brockport IRB Approval Letter

The College at
BROCKPORT
STATE UNIVERSITY OF NEW YORK
Grants Development Director

Date: March 10, 2011

To: Devon Starks

From: Colleen Donaldson
Institutional Review Board Director

Re: IRB Project # 2010-132

Project Title: The Relationship between Expectations, Teacher Interactions with Students, and Task Persistence in Elementary Children during physical Education

Your proposal "The Relationship between Expectations, Teacher Interactions with Students, and Task Persistence in Elementary Children during physical Education" has been approved as of 3/10/11.

You must use only the approved consent form or informational letter and any applicable surveys or interview questions that have been approved by the IRB in conducting your project. If you desire to make any changes in these documents or the procedures that were approved by the IRB you must obtain approval from the IRB prior to implementing any changes.

If you wish to continue this project beyond one year, federal guidelines require IRB approval before the project can be approved for an additional year. A reminder continuation letter will be send to you in eleven months with the specific information that you will need to submit for continued approval of your project. Please note also that if the project initially required a full meeting of the IRB (Category III proposal) for the first review, then continuation of the project after one year will again require full IRB review.

Please contact Colleen Donaldson, IRB Administrator, Office of Academic Affairs, at (585) 395-5118 or cdonalds@brockport.edu, **immediately** if:

- the project changes substantially,
- a subject is injured,
- the level of risk increases
- changes are needed in your consent document, survey or interview questions or other related materials.

Best wishes in conducting your research.

Appendix G

Consent Forms

ADMINISTRATION CONSENT FORM
Date
Principal's Name
Suburban Elementary School Name

Dear Principal,

My name is Devon Starks and I am a graduate student in the Department of Kinesiology, Sport Studies, and P.E. at The College at Brockport. For my master's thesis I am studying how teachers' expectations for their students affect a student's willingness to persist at a motor task in physical education. Permission from the [district representative for suburban elementary school] and from the Institutional Review Board at The College at Brockport have been obtained. I would like to obtain building level permission to use the students in your school for the proposed study. Consent forms will be distributed to the teachers, students, and parents before any data are collected. Procedures for obtaining consent are explained in the attached informational document. I will maintain confidentiality throughout the course of the study in relation to the participants in the study, school personnel, and the school itself through the use of identification numbers that will replace student and teachers names following data collection. The study will only take two days and involve physical activities appropriate for children in 3rd and 4th grades. Teachers and students can remove themselves from the study at anytime without any effect on grades or class standing. In addition, if you or an administrator in the school district feels it is necessary, you can remove the school from the study at any time. If you are interested in learning more about the study please review the information provided. If you are interested in allowing me to use your school for my study, please sign the sheet provided on the second page and return it to the IRB at The College at Brockport. Included is a stamped envelope for convenient return. If you would like to keep a copy of information from the study, feel free to keep the copy of the information included. Attached is the informational summary document that was provided to the IRB at The College at Brockport providing information about the study. If you have any questions feel free to contact me at the information provided below. Thank you for your time!

Sincerely,
Devon Starks
[Primary researcher phone number]
[Primary researcher e-mail]

Enclosed:
Cover letter
Consent Form
Information about study
Stamped and addressed envelope

Administration Consent

Please send this form in the stamped and addressed envelope

To: Institutional Review Board-The College at Brockport, SUNY

I have read and approve the research study entitled, " The Effects of Teacher Expectations on Student Persistence during a Challenging Motor Task " (based on the information provided on with this letter) By Devon Starks-Graduate Student and give consent for the study to be conducted at or through the Williamsville Central School District at Dodge Elementary School.

_____ _____

Signature Date

Title of person signing (representing the authority to give institutional permission):

_____

STATEMENT OF INFORMED CONSENT FOR PARENTS

This form describes a research study being conducted on how teachers' perceptions of their students affect the child's willingness to persist at a challenging motor task. The person conducting the research is a graduate student at The College at Brockport, SUNY in the Department of Kinesiology, P.E and Sports Studies. If you agree to have your child participate in this study, s/he will be asked to perform a game, which includes a balancing task where the child attempts to balance on a board while moving a ball through a maze on top of the board. This task is a game designed for children at the age of your child. The physical education teacher will be with the student observing the skill and providing feedback and the tasks and interactions will be videotaped for analysis. The possible benefit from being in this study includes findings that may help teachers to be more aware of how their interactions with their students affect their success and could lead to a more positive physical education environment. Your child's participation in this study is completely voluntary. Your decision to allow your child to take part in the study or desire to be excluded will in no way affect your child's grades or class standing. S/he is free to change her/his mind or stop being in the study at any time. I understand that:

- My child's participation is voluntary and s/he has the right to refuse to answer any questions or perform any physical education activities. S/he will have a chance to discuss any questions s/he has about the study with the researcher after completing the activity

- My child's confidentiality is guaranteed. Her/his name will not be written on the study.

- There will be no way to connect my child to the written study. If any publication results from this research, s/he would not be identified by name. Results will be given anonymously using identification numbers in place of names, so that neither the participants nor their schools can be identified. Participation will have no effect on the students' grades.

- There will be no anticipated personal risks or benefits because of participation in this project.

- My child's participation involves performing the task of using a Wobble Board in which they attempt to move a ball through a maze to a hole in the center of the board by standing on the board with 2 feet and shifting their weight.

- Approximately 60 students and 2 teachers will take part in this study. The results will be used for the completion of a research project by the primary researcher.

- Data and consent forms will be kept separately in a locked filing cabinet in the

faculty advisors office and will be destroyed by shredding when the research has been completed. Students and teachers names will be assigned identification numbers for data analysis and presentation of the results. Only the researcher will be able to see the participants' names. Also, any videotapes will be only be viewed by the researcher. I have the right to request an opportunity to view the instruments that will be used for data collection of the students. This request can be made by placing a request with the researcher and I can choose to either have the instruments e-mailed or post mailed to me with the researcher covering the cost of postage. An observation sheet will be used by the researcher to observe the students number of trials at the task, whether they were successful or not, and their general mood after attempting the task.

- Students will be videotaped for the sole purpose of using the videotapes to collect observations on the students and the teachers. These videotapes will not be seen by anybody but the researcher. The videotapes will be destroyed after the study is completed.
- The process for obtaining child consent will consist of the following. The researcher will review the form with the entire class and the students' opportunities to ask questions. The student will then be informed to take the form home to discuss with you and return back to school to sign with their classroom teacher. The form cannot be signed at home. I encourage you to discuss the form and the project with your child and contact the primary investigator with any questions or concerns. Please share with your child that I will be reviewing the form him/her at school. It is important that the form be returned to the school unsigned. Your son/daughter will have an opportunity to sign the form after it has been reviewed with him/her.
- I am 18 years or older as of February 1st, 2011
- Please send this form back to school with your child in an envelope, either the original or a new one.

You are being asked whether or not you will permit your child to participate in this study. If you wish to give permission to participate, and you agree with the statement below, please sign in the space provided. Remember, you may change your mind at any point and withdraw from the study. Your child can refuse to participate even if you have given permission for her/him to participate.

I understand the information provided in this form and agree to allow my child to participate as a participant in this project. I am 18 years of age or older. I have read and understand the above statements. All my questions about my child's participation in this study have been answered to my satisfaction.

If you have any questions you may contact:

Primary researcher	Faculty Advisor
Devon Starks	Dr. Francis Kozub
Department of Kinesiology, Sports Studies, and P.E. Graduate Student [Primary Researcher Phone #]	Department of Kinesiology, Sports Studies, and P.E. Associate Professor [Faculty Advisor Phone#]
[Primary researcher E-mail]	[Faculty Advisor E-mail]

PLEASE CIRCLE YES OR NO
I give my permission for my child to be videotaped and understand that these videotapes will not be seen by anybody but the researcher and will be destroyed after the study is completed.

Yes / No

_____ _____
Signature of Parent Date

_____
Child's name

STATEMENT OF INFORMED CONSENT FOR MINORS

Student Name: _____

My name is Devon Starks. I am a researcher and I want to know why kids try to do a hard activity. I am a graduate student at The College at Brockport, SUNY. If you would like, you can be in my study.

If you decide you want to be in my study, you will do an activity called The Wobbler. You move a ball through a maze to the end by standing on the board and moving around.

If you do the activity, you will help your physical education teachers make new games. I need volunteers who want to play. You do not have to be in the study, even if your parents have already said you could. If you decide not to play, it will not hurt your grade. No one will be mad at you. If you want to be in the study now and change your mind later, that's OK. You can stop playing at any time.

It is important for me to know that you want to play. Also, while you are playing, you do not have to answer any questions and you can stop at any time. If you decide to play I will not tell anyone about how you did or even if you choose to play. I will be videotaping you playing, but this video will only be used for me to see how you did.

Other people will not know if you are in my study. I will put things I learn about you together with things I learn about other kids, so no one can tell what things came from you. When I tell other people about my research, I will not use your name, so no one can tell who I am talking about.

You will not get hurt doing the activity. A sheet will be used by the researcher to mark how many times you try to do the maze.

You or your parents can call me (716-440-5150) with any other questions about the study or if you choose to not be in the study anymore.

Primary researcher	Faculty Advisor
Devon Starks	Dr. Francis Kozub
Department of Kinesiology, Sports Studies, and P.E. Graduate Student	Department of Kinesiology, Sports Studies, and P.E. Associate Professor

[Primary Researcher Phone #]	[Faculty Advisor Phone#]
[Primary researcher E-mail]	[Faculty Advisor E-mail]

PLEASE CIRCLE YES OR NO

I know there will be video camera in the gym. I agree to let you videotape me playing in the gym. No one will see the video but Devon Starks.

Yes/No

I have decided to be in the study even though I know that I don't have to do it. Devon Starks has answered all of my questions.

_____ _____

Signature of participant Date

_____

Birth date of participant

_____

Signature of a witness 18 years of age

STATEMENT OF INFORMED CONSENT FOR TEACHERS

Teachers Name: _____

This form describes a research study being conducted on how teachers' perceptions of their students affect the child's willingness to persist at a challenging motor task. The person conducting the research is a graduate student at The College at Brockport, SUNY in the Department of Kinesiology, P.E and Sports Studies. If you agree to participate in this study, you will be asked to conduct the class as normal and provide feedback to the student. The activities and interactions will be videotaped for analysis. The possible benefit from being in this study could be that information will be learned that would allow teachers to be aware of how their interactions with their students affect their success and could lead to a more positive physical education environment. In addition, tools teachers can use to evaluate their teaching will be provided as a result of this study. Your participation in this study is completely voluntary. Being in it, or refusing to be this study will not affect your standing with the College at Brockport or impact on any future relationship with the college. You are free to change your mind or stop being in the study at any time. I understand that:

- Devon Starks, who is a graduate student at The College at Brockport, has requested my participation in a research study at this school. The title of the research is The Effects of Teacher Expectations on Student Persistence during a Challenging Motor Task.
- I have been informed that the purpose of this research is to determine how teachers' perceptions of their students and their interactions with their students effect the students' willingness to persist.
- My participation will involve completing a survey where I rate all of my students on how I feel their success level will be with The Wobbler task and I will conduct my physical education class as normal.
- There are no foreseeable risks or discomforts.
- I understand that the possible benefits of this research is that the results from this study will allow teachers to view and understand why students persist at a task and can integrate the results into their curriculum.
- Approximately 60 students and 2 teachers will take part in this study. The results will be used for the completion of a research project by the primary researcher.
- My name and identity will remain anonymous. My name will be removed from any forms should this study be published. My name will be replaced with an identification number. There will be no way to link me to this study. In order to ensure and maintain my confidentiality, the researcher will keep any identifiable information in a cabinet with lock and key that only the researcher has access to. Also, any videotapes will be only be viewed by the researcher.
- I understand that my participation is voluntary and I can decide to stop participating

in the study at any time and there will not be any repercussions as a result.

- I understand that any questions I may have concerning the research and my participation will be answered by the primary researcher by contacting them at the information below.
- I will be videotaped and the videotapes will be used to collect observations of the students and the teachers. The videotapes will not be seen by anybody but the researcher. The videotapes will be destroyed after the study is completed.
- I have read and understand the above information and I agree to participate in this research study. Even though I signed this form I can choose to remove myself from the study at any time.
- I am 18 years or older as of February 1st, 2011
- I understand that this project is not being conducted by the school district and my participation or refusal to participate is not related in any way to my employment with the district.

You are being asked whether or not you want to participate in this study. If you want to participate, and you agree with the statement below, please sign in the space provided. Remember, you may change your mind at any time and stop being in the study.

PLEASE CIRCLE YES OR NO
I give my permission to be videotaped and understand that these videotapes will not be seen by anybody but the researcher and will be destroyed after the study is completed.

Yes / No

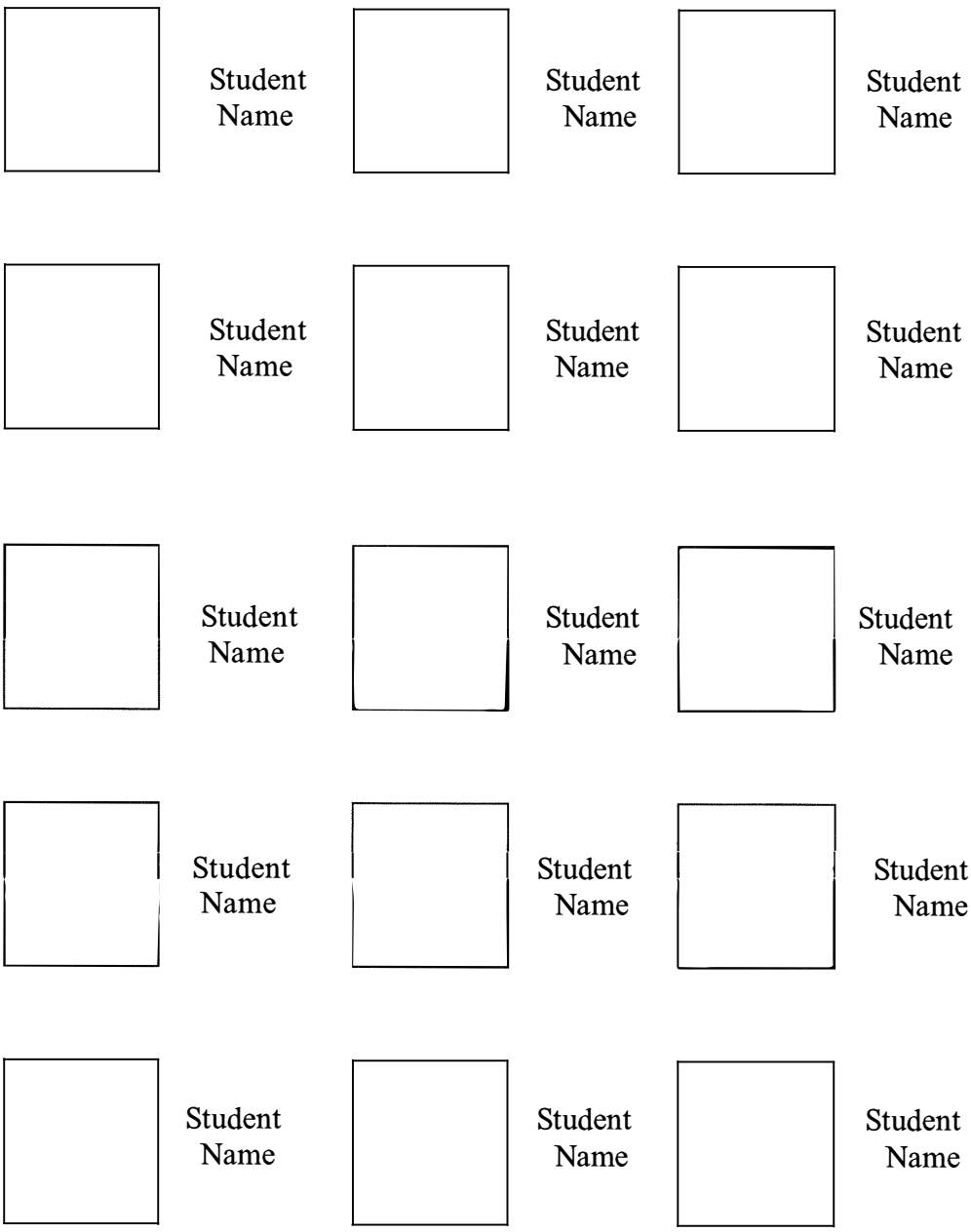
_____ _____
Participant signature Date

Primary researcher	Faculty Advisor
Devon Starks	Dr. Francis Kozub
Department of Kinesiology, Sports Studies, and P.E. Graduate Student [Primary Researcher Phone #]	Department of Kinesiology, Sports Studies, and P.E. Associate Professor [Faculty Advisor Phone#]
[Primary researcher E-mail]	[Faculty Advisor E-mail]

Appendix H

Picture Sheet for feedback recording

Classroom Teacher's Name



Appendix I

Gymnasium Set-up

GYMNASIUM

STATION #3

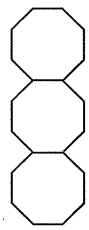
CAN THE GOALIE

NET

^

STATION #2

BEAN BAG TOSS



^

STATION #4

JUMP ROPE

^ ^

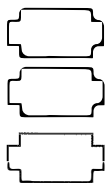
S S

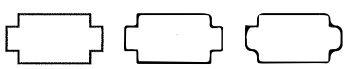
S S

^ ^

STATION #1

THE WOBBLER STATION





STATION DIAGRAMS ON NEXT PAGE

Station #1-Wobble Board Set-up:

^ = Cones

 = Wobble Board

S = Student

R = Researcher

T-Teacher

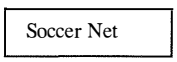
Station #2-"Horseshoes" Set-up:

 = Hula hoop

^ = Cone

S = Student

Station #3-"Can the Goalie" Set-up:



Station #4 Set-up

 **= Jump rope**

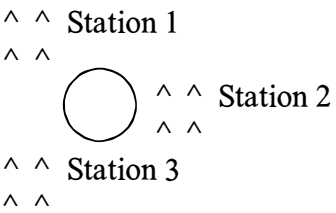
S = Student

Appendix J

Activity Script

Entry routine: Students will enter the gymnasium and sit in the circle in the middle of the gymnasium. The 3 stations will be spread out around the gymnasium outside of the circle.

Gymnasium Set-up:



Introduction:
Researcher: Good morning/afternoon boys and girls! My name is Ms. Starks, can you say that? **Students respond** Today we have some fun activities set-up for you. We have 4 different stations with different activities. I am going to explain and demonstrate how to perform each activity and then if you have any questions about the activities you can ask me after I am done explaining them. You can move freely between stations #2-#4 participating in any activities you want. You are only at station #1 if you are told to go to that station. If there is time at the end of the class, station #1 will be open for everyone.

Station #1-Wobble Board:
Researcher: At this station there are balance boards with mazes and balls on them. **Researcher holds up board and ball for students to see** Your goal is try and move the ball through the maze by standing on the board and moving your body and legs side to side. **Researcher demonstrates** You must start with the ball at the front of the board. You can try as many times as you would like to try and get the ball in the slot in the middle. You cannot pop the ball off of the board. If your ball falls through the holes, that is ok, just pick up the ball, put it in the front, and try again! When you have decided you do not want to try the activity anymore, raise your hand. I will give you the name of another student in the class. It is your responsibility to get that student and send them over to this station. As you can see, there are numbers in front of each board. Before you leave, look at what number board you were on, and send the student you were assigned to that number. For example, if I am told to get Johnny, I am going to look, see that I am at the number 3, and go find Johnny. I will say "Johnny, it is your turn at station #1, go to board number 3. You do not have to check in with me (the researcher), just begin the activity. There is no time limit. Even if you do not complete the activity, you can stop. Any questions?

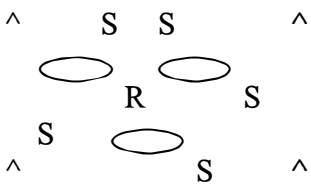
Possible Questions:

Question from student: What we do if get the ball in the middle and there is still time left at the station?
Answer from researcher: That's awesome! If you do get the ball in the middle then you can take the ball out and try it again if you want!

Q: Can you ask someone else for help?

A: Sometimes it is good to ask people for help when you are attempting a challenging activity, but for this activity, I want you to try your hardest and try it yourself!

Station 1 Set-up:
^ = Cones
⬭ = Wobble Board
S = Student
R = Researcher



Station #2-Bean Bag Toss
Researcher: The students at the station will be trying to score points for themselves. Each student will have their two of their own individual color bean bags. The bean bag choices will be red, yellow, green, blue, orange, and purple. **Researcher holds up beanbags** There cannot be more than five people participating at this station. There will be three hula-hoops in a vertical line set on the ground. As you can see there is one cone set-up across from the hula-hoops. Can I have 3 volunteers to help me demonstrate. **Researcher chooses students** The 3 students will get two bean bags of the same color and stand in one line behind the cone. Each student will take alternating turns and attempt to throw the beanbag at the hoops from behind the line of tape on the ground, and will try and land their beanbags in the hula-hoops. The first person in line will take their turn throwing the bean bag. You can throw overhand **Researcher demonstrates** or use an underhand toss. **Researcher demonstrates** Once you throw the beanbag, go to the end of the line. Every student will have two turns per round **Student from front of line throws their bean bag, and walks to the end of the line as the researcher explains the task as described above**

Once every student has had two turns, everyone walks to the scoring hoop and adds up their score. Each hula hoop has a point value. The closest blue hula hoop is one point, the yellow hula hoop is two points, and the red hula hoop is three points. The student with the most points wins. Beanbags outside of the hula hoops are worth zero points. If a bean bag lands between two hula hoops, you are going to use the hula

hoop with the lower point value. For example, if I throw my bean bag and it lands on the red and yellow hoops, which point value do I take? **Students answer** That's right, I would take 1 point because the red hoop is worth one point, the lower number, and the yellow hoop is worth two points. There may be tie scores for winners and that is ok. After the students add up their score to determine the winner, they collect their beanbags, return to the line, and start a new round. They start each round with zero points so that students can come and go between rounds. There is a sign on the wall **Teacher points to sign** if you cannot remember the point values. Thank you to my helpers you may have a seat. **Students sit down** If there are any concerns about people following the rules and you cannot settle the issue please come find your teacher and they will help you. Try and use the problem solving skills you have worked on to handle the situation. Any questions?

Station #2 Set-up:

◯ = Hula hoop

^ = Cone
S = Student

◯

◯

◯

^
S
S
S
S
S

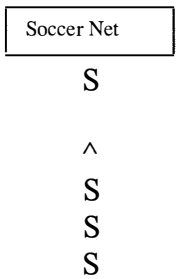
Station #3-Score on the goalie

Researcher: The game that we are going to playing at this station is "Score on the goalie." When you get to the station, all of the students will stand in a line behind the cone furthest from the goal. One student will go and stand in the goal and one will be the goalie to begin. Each student in line takes a turn setting the ball on the green spot on the ground to kick and will try and kick the soccer ball at the net and will try to score a goal. If a student kicks the ball and misses the goal or it is stopped by the

goalie, the student goes to the end of the line, the next person in line steps up to the kicking cone and the goalie gently rolls the ball to the next person in line and that person will try and score a goal. Make sure the goalie is ready before you kick the ball. If a student kicks the ball and scores, they replace the current goalie, and the goalie goes to the end of the line and waits their turn to kick the ball at the net. Keep rotating through the line until class ends or you want to try another station. If you are in line please stay behind the cone if it is not your turn to kick. **Teacher demonstrates while explaining activity** Any questions?

Possible Questions:
Question from student: Does it count of the ball bounces off the post into the goal?
Answer from researcher: Yes it does! If the ball goes in the net it is a goal, even if it bounces off the post or off the goalie!

Station #3 Set-up:



Station #4-Jump Ropes
Ok boys and girls I know you have done jump roping before so I want to quickly review with you what you can do at this station. When you get to this station you can choose either a 7 foot, 8 foot, or 9 foot rope **Teacher holds up ropes** You will find your own space inside the cones and you can practice regular jump roping or your tricks. Who can tell me what some tricks are that you learned? You can practice the cross, backwards jumping, swinging the rope, double jumps, and any other tricks you may know. I am not going to show you the tricks because you have enough experience with them to be able to do them. If you need help picking a trick or cannot remember how to do one, you can ask your teacher or another classmate. As usual, when you take the jump rope out of the bag, put the bag in the empty box so it does not get lost. When you are done with the jump rope please fold it up neatly the appropriate way and put it back in the bag, and in the appropriate box. Any questions?

Station #4 Set-up

 **= Jump rope**

S = Student


S


S

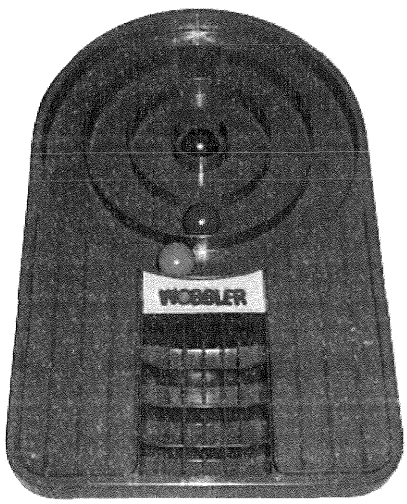

S


S

Appendix K

Station Signs

STATION #1
THE
WOBBLER



STATION #2
BEAN BAG TOSS

STATION #3

SCORE ON THE GOALIE

STATION #4

Jump Rope

Appendix L

Bean Bag Toss Points Sign

POINTS

RED = 3 points

YELLOW = 2 points

BLUE = 1 point