

Expanding a Secondary Swim/Safety Curriculum Through a Community of Practice

by

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ABSTRACT

Recently, a student in a Maricopa County, Arizona area school district drowned during a physical education class, resulting in a heightened awareness of school aquatics safety guidelines. The goal of this study was to use Wenger's idea of nurturing a Community of Practice (CoP) with the existing physical education CoP at GFJRHS (school pseudonym), to examine the current curriculum and enhance the program and safety standards. The study duration was a five-week period; the participants were 7th grade males.

This action research addressed the following questions: 1.) To what extent does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills? 2.) How, and to what extent, do students value different observational learning techniques presented during the swim unit? 3.) To what extent does the new swim curriculum increase students' swimming capabilities? 4.) How does working as a Community of Practice influence implementing an enhanced swim curriculum? 5.) What challenges and improvements do participants report during the enhanced curriculum?

A triangulation mixed methods design was used to determine whether observational learning techniques and mini aquatics safety lessons incorporated into the curriculum improved students' swimming ability, self-efficacy, and safety knowledge. Pre-and post-test swim assessments, pre- and post-test surveys, focus group interviews and researcher journal observations provided data for the study. Both quantitative and qualitative data were collected to integrate the strengths of the varied forms of research.

Cronbach's coefficient α was computed for the reliability of the survey and a multivariate repeated measures analysis of variance (ANOVA) was conducted to determine whether the new swim curriculum increased students' self-efficacy for swimming, self-efficacy for water safety, perception of swim skills, perception of water safety skills, and swimming capabilities. Results of this study indicated students' self-efficacy and perception of water safety skills increased, students' ability and perception of swimming skills increased, students valued all observational learning techniques, and teachers felt that functioning as a CoP was crucial to the process.

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I dedicate this research to Ron Schoenwetter, a mentor who is the ultimate example of what an excellent teacher can be; and to the many drowning victims, their families, and friends, this research was conducted for you.

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CHAPTER 1

INTRODUCTION

In May 2010, a student drowned during a physical education class in a Phoenix area school district. *The Arizona Republic* reported that, allegedly, the physical education department and the district did not have proper safety guidelines in effect. According to *The Arizona Republic*, “A school district official has said the two teachers who were watching the kids from an observation platform were not certified” (Javier, 2010). As a result, many school districts in the area focused more attention on aquatics programs and pool safety. Due to my having expertise in aquatics, pool management, and physical education, an administrator in a Phoenix area school district in which I work requested that I design and implement a swim curriculum and universal safety guidelines for possible incorporation throughout the district pools.

Background

As a young teen, I spent summers in New Jersey with my grandmother while learning swim technique from my Aunt Karen, a physical education teacher who had been a national swim champion. Aunt Karen does not suffer apathetic teenagers well, so I quickly learned technique, speed, and duration, as she encouraged me to be the first child to swim the length of a lake in northern New Jersey (The plaque noting my feat is still posted by the dock at Green Pond).

I returned to Michigan to join my high school swim team and also joined a local renowned YMCA swim club, Oakland Live Y’ers. I qualified for nationals in Orlando, Florida, and, while at the competition, I was able to visit the plaque with Aunt Karen’s name emblazoned as being national Butterfly Stroke Champion of her year. I

subsequently became a lifeguard and swim teacher at sixteen, teaching autistic and special needs students. After working with a student all summer and watching him become empowered by swimming the length of the pool at the end of the season, I experienced the rewards of teaching and my career path began.

While pursuing my undergraduate degree at Michigan State University, I was the swim lesson coordinator at the Michigan Athletic Club and spent summers in Nantucket, as a lifeguard and lifeguard supervisor, saving and overseeing the saves of hundreds of lives. I then served as manager of pools in New Jersey, Massachusetts, and Arizona. As part of my pursuit of the masters degree, I aided in creating a swim curriculum that was incorporated into the college textbook, *Dynamic Physical Education for Secondary School Students* (7th ed.) by Paul W. Darst and Robert P. Pangrazi (2009). I also contributed to the 2009 publication of the *Journal of American College Health*, “The Progression and Characteristics of Conceptually Based Fitness/Wellness Courses at American Universities and Colleges” (Kulinna, Warfield, Jonaitis, Dean, & Corbin, 2009).

Following the work on these publications, I taught a course at Arizona State University focusing on instructing teachers on the swim curriculum for secondary students and lifeguard training. I also joined the staff in the physical education department at GFJRHS (a pseudonym for the school) and the site for this action research study. I have taught there for six years and have played a lead role in the swim program. I continue to supervise the swim curriculum in-service training for teachers at GFRJHS, certifying them as lifeguards, in addition to overseeing safety guidelines and the emergency action plan.

Over the years, I have certified many lifeguards and swim teachers to increase safety at our nation’s beaches, pools, and schools. My essential goal as a physical education swim teacher has been to keep students safe and to teach them to save their own lives by learning to swim.

Context

GFJRHS is located in the East Valley of Maricopa County, AZ. GFJRHS consists of seventh and eighth grades. There are 947 students enrolled with 490 seventh grade students (240 girls and 250 boys), and 457 eighth grade students (221 girls and 236 boys). The ethnic distribution of the student body is presented in Table 1.

Table 1

Ethnicity Composition of GFJRHS 2013-2014

Ethnic group	Percentage
Hispanic/Latino	16
American Indian/Alaska Native	1
Asian, Hawaiian/ Other Pacific Islander	6
African American	2
Caucasian	73
Other/Two or more races	2

The majority of students at GFJRHS would be considered middle class. All 947 Students at GFJRHS are required to participate in daily physical education for seventh and eighth grade including the five-week fall swim unit. During the spring semester there is another five-week swim unit to review knowledge from the fall unit. Boys and girls are

taught separately during physical education. There are currently three female and two male physical education teachers. Class sizes range from 25 to 40 students. Although all students, including special education students, are offered physical education classes, some students who may be severely disabled or have religious concerns may not take physical education classes. This is the reason for the disparate student totals in the study as stated above.

The pre-study swim curriculum focused on teaching stroke techniques for freestyle (front crawl), backstroke, breaststroke, and elementary backstroke (survival stroke). Students used equipment to assist them such as kick boards. The students were taught strokes in two parts: kick first then add arm motions. The curriculum also included a fitness component in which various water aerobic activities were taught. Informal assessment such as teacher observations and corrective feedback were used during the lesson. The pre-study curriculum placed emphasis on teaching water safety. It included an introduction given at the beginning of the unit to inform students of pool rules, and the unit touched on the safety of swimming, but not in-depth. In order to protect students and staff, this action research study sought to incorporate safety mini lessons into each class in combination with formal assessments to ensure that students retain knowledge of water safety.

This study included three cycles of action research:

- Cycle 1 sought to determine whether the group of teachers at GFJRHS were indeed a Community of Practice according to Wenger's definition, and, if so, to ascertain if the CoP would be willing to participate in revamping the swim curriculum with a more robust safety component.

- After determining the existence and cooperation of the CoP, Cycle 2 included meetings and discussion regarding what information to add to the curriculum and how it would be implemented.
- Cycle 3 included incorporating the new curriculum with its group of new safety mini-lessons and observational learning techniques. It is this stage of action research with the application of the new curriculum and its evaluation that is discussed in this dissertation.

In order to improve the curriculum, I was reassured that the members of the GFJRHS CoP (Community of Practice) seemed most willing to undertake the swim/safety universal curriculum development. In doing so, it was imperative to:

- Create a plan for implementing the change (Wenger, 1999b);
- Encourage ownership of the goal (Wenger, 1999b);
- Help others, train them, be a support system;
- Nurture the CoP by making it larger through communication (Wenger, 1999b);
- Encourage cohorts to be boundary brokers in order to enlarge the CoP from a core group to a universal district-wide CoP (Wenger,1999b);
- Develop department communication;
- Create opportunities for discussion (department meeting time);
- Increase percentage of non-swimmers to swimmers;
- Incorporate diverse activities in lessons;

- Discuss Stallman’s research on drowning (be comfortable swimming on their back as much as on their front); and,
- Discuss cooperative multi-level grouping (swimming ability).

I find teaching students to swim and to follow swim safety guidelines to be of extreme importance to the community because, as a pool manager and lifeguard trainer, I am acutely aware that every year, a significant number of people drown in pools.

According to the Center for Disease Control (CDC), “Every day, about ten people die from unintentional drowning; of these, two are children aged 14 or younger,” (2012b).

The CDC (2012b) goes on to explain, “Drowning is the sixth leading cause of unintentional injury death for people of all ages, and the second leading cause of death for children ages 1 to 14 years.” Living in the state of Arizona, the warm climate and numerous pools increases the need for water safety knowledge. According to the Arizona Department of Health Services, “In 2010 there were 33 deaths due to drowning, which accounted for four percent of total child deaths.” (ACFRT, 2011, p. 44).

Teachers play a critical role in providing students with water safety instruction and the swimming skills needed to prevent drowning. There also is a need to have articulated pool safety guidelines within my public school district (GPS) to minimize liability potential for the district, teachers, and students. The goal of this study was to examine the current curriculum and make improvements incorporating the highest of safety standards.

Action Plan

In initiating the enhancement to the swim/safety curriculum, I sought to utilize a current GFJRHS Community of Practice (CoP), consisting of five physical education

teachers, including myself, to research the current swim curriculum and safety guidelines needed, with the goal to eventually use the CoP as the framework for enhancing the current swim curriculum with a focus on incorporating safety mini lessons as the introduction to each class. The CoP will be discussed further in Chapter 2.

After reading the introduction and context of this paper, one could presume that the directives of a new swim curriculum and incorporation of safety guidelines are mandated as the innovations to be made. However, this study can be seen as a double faceted innovation, with the nurturing of a Community of Practice as a prerequisite to the academic endeavor. The CoP was not just exclusive to the goal at hand, but is the primary innovation to create the framework of ongoing open dialogue, not only within this study's CoP, but also between schools for future joint ventures. A Community of Practice can be an important implement in spreading and sharing knowledge to open the line of communication among teachers and help build a better curriculum.

The first and second cycles of action research conducted provided data on how the CoP viewed the pre-study curriculum and provided insight into how the curriculum would be developed and implemented. The results of the action research cycles will be discussed in Chapter 2.

The current cycle of action research seeks to answer the following questions regarding an enhanced swim/safety curriculum:

1. To what extent does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills?

2. How, and to what extent, do students value different observational learning techniques presented during the swim unit?
3. To what extent does the new swim curriculum increase students' swimming capabilities?
4. How does working as a Community of Practice influence implementing an enhanced swim curriculum?
5. What challenges and improvements do participants report during the enhanced curriculum?

CHAPTER 2

BACKGROUND LITERATURE

This chapter includes a review of literature that guided the three cycles of action research. The information found helped to form new ideas on the study's design and implementation. As teacher and researcher, I was able to incorporate the review of literature in order to expand my knowledge on physical education, swim curriculum and safety, sport psychology, and Communities of Practice, which are the main ideas behind each section of this chapter. The first section discusses why physical education in schools is important and why it should continue. The second and third sections focus on two aspects of sport psychology--observational learning and self-efficacy. These sections discuss how observational learning can be a tool for teaching and improving learning and also how students' performance in sports can be impacted by their self-efficacy. The following three sections explore swim curriculum and methods of instruction that help increase safety knowledge and improve swim abilities. It also discusses the need for assessments to be used to ensure learning is occurring and students' improvement is tracked. The final section is on how Communities of Practice can be effective in developing a new curriculum through sharing knowledge and ideas to achieve a common goal.

Physical Education

The primary goal of this study was to evaluate an enhanced secondary school swim curriculum in a physical education class. Physical education (PE) is essential to education in the United States. Throughout the past, there has been much skepticism of the benefit of physical education classes in school. However, "physical education is an

instructional program that gives attention to all learning domains, psychomotor, cognitive, and affective” (Pangrazi, 2003, p. 106). There are many components that go into making a physical education program effective. Like any other class, it should be content-based and have set standards that should be met. Standards should be measurable so that students and teachers know when progress has been made (Pangrazi, 2003).

Effective physical education should teach students diverse skills that they can use throughout their lives. Darst and Pangrazi explain that,

Systematic and properly taught physical education can help to achieve the major content standards, including developing movement competence, maintaining physical fitness, learning personal health and wellness skills, applying movement concepts and skill mechanics, developing lifetime activity skills, and demonstrating social skills. (2009, p. 1)

Physical education can help in academic classes as well as in improving students’ physical well-being. Evidence from previous studies demonstrate that students who participate in physical education achieve as well as or exceed others in didactic subjects (Pangrazi, 2003). It is important for a physical education program to be dynamic and offer many benefits to students while teaching skills that promote active living that can be used throughout their lives.

The National Association for Sport and Physical Education (NASPE; 2004) states in National Standard for Physical Education Four that, “it is critical to the development and maintenance of good health that a physically educated person achieves and maintains a health-enhancing level of physical fitness” (p. 20). A goal of physical education should be to promote physical activity and develop skills that can be used throughout one’s life. Since the number of students that are overweight has more than tripled in the past 30 years (CDC, 2012a), there should now be more focus than ever on developing programs

that promote the lifetime activity of students. In fact, a professional panel recently reported that juveniles should engage in 60 or more minutes of exercise that is cognitively fitting, amusing, and offers diverse activities (McKenzie & Lounsbery, 2009).

A PE class is the perfect time to get students active and to teach them important skills through enjoyable activities. In a study by Martin and Kulinna (2005), they noted that a PE curriculum that is put into action by a physical education professional and based on improving health can boost activity levels of students. The reverse is also true; Darst and Pangrazi (2009) state, “The probability of an inactive 12 year old remaining sedentary at age 18 was 51-63 percent for girls and 54-61 percent for boys” (p. 6). Excluding a physical education program in school can lead to inactive adults. The 2008 Physical Activity Guidelines for Americans suggest that school age children receive 60 minutes of physical activity daily and it should be primarily composed of “moderate-to-vigorous intensity with vigorous intensity, muscle strengthening, and bone strengthening activities occurring at least 3 days per week” (U.S. Department of Health and Human Services DHHS, 2008, n.p.). In the past it was recommended that activity be continuous to achieve the appropriate levels but Darst, Pangrazi, Sariscsany, and Brusseau (2012) mention that the new recommendation for 60 minutes of moderate-to-vigorous exercise can be done throughout the day in shorter spurts. In order to achieve this level of physical activity schools must be involved and encourage active living. Metzler, McKenzie, Van Der Mars, Barrett-Williams, and Ellis (2013) mention that because children spend the majority of their waking hours at school for over 12 years of their life, the most important settings for students to get physical activity are recess, before and after school programs, and physical education. The authors continue to say that because

physical education is the only one that is mandatory, it is the only place where some children have the chance to become physically fit and learn necessary skills to continue throughout life.

Why focus on promoting lifetime activity in secondary schools? Studies show that the risk of obesity persisting into adulthood is much higher in adolescents than in young children as it goes up from 20% at age four to 80% by adolescence (Pangrazi, 2003). Maintaining a physically active lifestyle helps reduce the risk of developing obesity, which can lead to chronic diseases, such as diabetes, cardiovascular disease, and colon cancer. It can also be beneficial in developing and sustaining healthy bones and muscles and decreasing feelings of depression and anxiety and supporting psychological health (CDC, 2012a). Teaching the importance of maintaining an active lifestyle can improve the quality of life through physical education classes. There is evidence that helping students learn these skills as adolescents can help them achieve a healthy adulthood. A study conducted by Racette, Cade, and Beckman (2010) confirmed this as they examined school based physical activity and fitness promotion at a secondary school. They found that school leaders reported that students who were physically fit performed better in the classroom and on tests. Metzler et al. (2013), support this result and report, “There is substantial evidence to suggest that physical activity can affect cognitive skills, attitudes, and academic behavior, as well as improve academic achievement” (p. 43). The study findings from Racette et al. demonstrated that students who participated in school-based physical activity such as a physical education class also improved their rate of activity as well as duration. They also found that it lessened the amount of time spent in inactive activities, such as watching television. During a PE class, students learn important skills

that will carry on throughout their lives. Students develop skills related to a personal level of fitness, physical skills that will help them in future activities, and knowledge related to motor skills.

In order for physical education to be effective, it is important to have an appropriate curriculum in place. The appropriate curriculum should include emphasis on educating students for lifelong activity. “To provide students with appropriate knowledge, skills, and confidence to be physically active throughout their life, curriculum development is critical” (Darst et al, 2011, p. 44). The model used at GFJRHS follows the Dynamic Physical Education modeled after the work of Darst and Pangrazi (2012), which is student-centered and focuses on the process of learning through four part lessons. The enhanced curriculum continues to follow this model. To be effective, we must teach students skills that will help them throughout a lifetime, such as how to self-assess, self-management skills like goal setting, program planning, self-monitoring, and overcoming barriers (Darst & Pangrazi, 2009). These skills in addition to problem solving proficiencies such as learning to evaluate materials on fitness will lead to independent thinking. It will help to improve the ability of students to make choices on active living throughout their lifetime (Corbin, 2002). The need for educating students in living active lifestyles has been a major focus recently.

One of the areas of concern has been the question of how do we effectively teach physical education. One area of research has focused on the skills of a teacher and how it translates to sport education. Metzler (2011) mentions there are six characteristics of expert physical education teachers. First, they plan thoroughly for each lesson. As in any other course of study, it is necessary for the instructor to have a well-planned and

developed lesson for each unit of study. Second, they focus on individual student performances. Teachers must acknowledge student successes outside of the group to keep motivating students to achieve. Next, they create automaticity of behaviors. In order for students to be successful there needs to be autonomy for each student where they feel they can succeed based on their personal skills and development. Another important aspect is giving creative feedback. The ability for instructors to be able to provide students with feedback that is constructive and productive will help students achieve in learning sport. Metzler (2011) continues with the need for teachers to command knowledge of their subject matter. It is necessary for any educator to have a significant knowledge of their subject in order to relay information and help students understand concepts. Finally, instructors should use reflective practices (Metzler, 2011). To be successful, reflection can be used as a tool to create lessons based on past experiences and the data gathered through those experiences.

Another area of focus in physical education is assessment. In order to evaluate student learning and outcomes in PE classes, schools began focusing on fitness testing students. According to Darst and Pangrazi (2009), the increased focus on fitness levels of children has “resulted in a need to train students to pass fitness tests to meet district standards” (p. 258). The authors go on to explain that this teaches students to focus on the goal of passing the test rather than importance of daily activity (Darst & Pangrazi, 2009). This is why it is so important to have a well-designed curriculum that provides students with the skills they need for life. The enhanced curriculum developed with the input from the GFJRHS Community of Practice includes assessment as a way to track progress, but focuses on evaluations of understanding, rather than fitness. Corbin (2002) affirms this

notion and states that fitness tests may result in lower confidence of children who find that even when trying their hardest, they cannot meet the fitness goals that are required to get good grades or meet instructor expectations. As a physical education teacher, it is necessary to make sure that one is teaching students needed skills and not focusing solely on passing a test in order to meet district standards. It is imperative that students and parents understand that fitness may not be an appropriate indicator of adolescent skill levels. A more effective approach to assessments in physical education is based on defined student outcomes and evaluating whether they are met. Metzler (2011) explains that assessments in PE are done for three important reasons. First, they depict the amount of learning that took place within a measurable amount of instructional period. Next, assessments identify the quality of education students have received through assessing results. Finally, assessments can help instructors make decisions on how to improve lessons if the desired amount of learning was not achieved. Assessments in physical education are very different than in many other subject areas because there is no official procedure to collect student data. Physical education teachers are not given outlines as many other subject matter teachers; they are responsible then for finding ways to report what students are learning. “Given multiple obstacles, teachers are faced with the challenge of developing and implementing assessment techniques and strategies that are authentic representations of what students have learned and can do” (Darst et al., 2012).

There are various ways that PE instructors can effectively give assessments in class. Physical fitness tests will continue to play an important part of physical education, and when administered effectively in addition to other assessments, can give educators valuable information on student achievement. Adding assessments can be very beneficial

to instructors whether formal, informal, summative, or formative. The goal is to have standards for student learning as in any other subject area. There is no correct way to administer physical education assessments. However, Metzler (2011) notes that good programs document student success by establishing a system that gathers data on relevant performance criteria. “The most effective teachers and programs are those that link standards, assessment, student learning, and continuous program improvement,” (Metzler, 2011, p. 168). Assessment is essential in the enhanced curriculum in order to understand, monitor, and track student learning and development.

Effective physical education needs to have a positive learning environment. To get students motivated and teach them lifelong skills, it is important, like in any other class, to provide a constructive environment that encourages learning. It is important for PE teachers to not push students away from physical activity by revealing inadequacies. Policies should be evaluated to ensure that they encourage participation. Teachers need to show their ardor for physical activity and their passion for teaching (Darst & Pangrazi, 2009). Encouragement and enthusiasm that creates an environment that allows students to learn and perform at their best will help to make a successful physical education program.

Balanced programs that present a wide variety of activities and can reach different skill sets are important. In the past, there has been too much emphasis placed on high intensity exercise. Healthy People 2000 (National Center for Health Statistics, 2012) explains that this could be a factor in the limited number of Americans that are regularly active. Therefore, a curriculum should include a variety of activities in order to include all students because it is important for people to participate in activities that interest them and they find enjoyable (Butler, 2002). This will help promote future participation in the

activity as well, since it is something that is fun for the participant and they view themselves as competent. A successful teacher should offer as many activity choices as possible. In a middle school class, students are often influenced by peers and will not participate in an activity in which they are not going to excel if their peers are watching (Pangrazi, 2003). This can be a problem as not all students will be able to perform the necessary skills that are required for an activity, others will simply not enjoy it, and some may excel at it. It can be counterproductive to make children participate in activity that they do not enjoy simply because it will not hurt them physically (Corbin, 2002). Students should enjoy an activity so that they will want to continue to participate and stay active. Intrinsic motivation is the way most students are encouraged to participate; it is important to find a variety of options that will suit their needs.

In enhancing the swim/safety curriculum, adding multiple activity choices in a water setting is crucial to giving many opportunities for a student to find confidence in being in a water environment. The enhanced swim curriculum includes a variety of games and activities to reach out to all students. A variety of games and activities were designed for student enjoyment as well as keeping students active. Some schools often offer elective classes that will allow students to choose what appeals to their personal interests, such as weight training or swimming; incorporating this choice into a required class can also be very beneficial. Darst and Pangrazi (2009) contend that an elective program provides benefits for students such as a higher participation rate, excitement, and passion.

When developing a physical education curriculum, the variety of activities should also be in an assortment of categories. They should range from team sports activities such

as football, basketball, and baseball to outdoor adventure activities such as rock climbing, ropes courses, and bicycling; also included should be health related-activities such as aerobics, jogging, and weight training, and lifestyle sports activities such as dance, golf, and tennis (Darst & Pangrazi, 2009). Providing actions that appeal to all students will help them have a positive experience in physical education. According to Pangrazi (2003), “60 percent of respondents ages 18-34 reported that a positive experience in PE classes encouraged them to be active later in life” (p. 108). It is also significant to focus on how the various activities are structured. Since students have different skill and activity levels, it is essential to plan lessons that will appeal to all students. According to Corbin’s (2002) findings, structured games result in increased activity for relatively sedentary children, but structured activities also decrease the activity levels of the most active children. On the other hand, “typically sedentary children are quite inactive in less structured and free play activities while highly active children are especially active in these situations.” It may seem like there is not a good way to find balance; however, the findings showed, “the more you structure activity, the less the variability in activity among children” (Corbin, 2002, p. 131). To achieve the goal of promoting skills used throughout a lifetime, students cannot leave a PE class with a bad experience. Butler (2002) suggests that students be offered some decision in the classroom such as being able to choose competitive or cooperative games, choosing whether or not to keep score, and choosing partners or groups. This will help students to have a positive experience and encourage participation. In structuring activities, not only students’ opinions and attitudes need to be taken into consideration, but also the “learning objectives, equipment and facilities available, progression of activities, and assessment” (Butler, 2002, p. 18).

The goal and importance of a physical education program should be to teach the importance and benefits of physical activity on health. Students should learn to participate in activities that contribute to health and which can occur throughout life. This can help reduce the number of health problems prevalent today due to obesity and inactivity. Swimming is one of these lifelong activities because it is a low impact sport that contributes to several of the health-related components of fitness and because people can participate alone or in a group (Butler, 2002). Swimming is an important part of physical education and should be able to be included with a focus on safety.

Observational Learning

In my research, I examined social cognitive theory and how it relates to the development and implementation of an enhanced secondary swim curriculum as well as its impact on student learning. In order for learning to occur during the enhanced curriculum, students need to be engaged. “In Social Cognitive Theory individuals are viewed as proactive agents in the regulation of their cognition, motivation, actions, and emotions, rather than as passive reactors to their environment” (Feltz, Short, & Sullivan, 2008, p. 4). In social cognitive theory, people use influences such as provision, self-reflection, and self-regulation to impact their functioning. Also, structures such as perseverance (agentic behaviors), intelligence and beliefs (personal factors), and communications with others (environmental conditions) help to form motivation and behaviors (Feltz et al., 2008). The enhanced curriculum focuses on the use of observational learning as outlined in social cognitive theory.

Observational learning strategies were used to model swimming skills and safety procedures during the enhanced curriculum. The idea behind observational learning is

that “by observing others, one forms rules of behavior, and on future occasions this coded information serves as a guide for action” (Bandura, 1986, p. 58). More simply, information is gathered through watching others and reflecting and associating what was observed. There are many potential benefits to observational learning. “Through the years, modeling has always been acknowledged to be one of the most powerful means of transmitting values, attitudes, and patterns of thought” (Bandura, 1986, p. 47). In implementing the enhanced curriculum, observational learning was used during the swim unit as a tool to demonstrate stroke techniques as well as safety lessons through modeling. In order to enhance cognitive learning through modeling, there are processes that must take place to be successful. According to Bandura (1986), there are four processes that occur: attentional, retention, production, and motivation.

Attentional processes refer to the ability to correctly identify important attributes of the observed behavior (Bandura, 1986). The students must be able to observe and pay attention to what is being modeled. It is important to consider the audience observing the modeling that is presented. If they are young children, they are distracted much more easily, and it is important to attract attention to behavior (Bandura, 1986). Narration or explaining what is occurring during a modeled behavior is a good way to attract attention to the important aspects of the activity (Bandura 1986). Simply paying attention to a modeled behavior is not enough to reproduce the action. The next step is turning what was seen into retaining the information. The retention process occurs as the information is taken and turned into “visual or verbal representations” (McCullagh & Weiss, 2002, p. 133). This process is about remembering the essential elements of what was observed and turning it into something relatable after the modeling has finished (Bandura 1986).

Information can then be applied to preexisting knowledge. The third process, production, occurs after the representations are created and turned into applicable actions. This is the process where the student attempts to duplicate the behavior (Bandura, 1986). During this phase, students will learn by attempting the task and continuing to try until they can reproduce what was observed. Finally, the last process of observational learning is motivation. There needs to be a reason for the observer to try the modeled behavior. If the activity has no observed value or comes with risk of reprimand, it may deter the observer from attempting it, whereas, when positive incentives are shown, the observer is more likely to attempt the activity (Bandura, 1986).

The enhanced curriculum includes structure modeled activities according to the processes entailed in observational learning. Since modeling is only successful if students pay attention, classes were organized to limit the number of distractions. Narration occurred as well during modeled activities to explain what was occurring and to help students pay attention to the essential elements, so that they learned what was important to take away from the activity. In order to help students through the production phase, classes were divided into groups to attempt what they had just observed. Instructors, as well as peers, provided feedback which helped students learn to perform the behavior correctly. In order to motivate students, positive reinforcement was used to encourage them to keep trying. Instructors offered friendly challenges to students and help students set goals for themselves.

Observational learning is helpful in the enhanced swim curriculum since “observing repeated demonstrations by a proficient model can provide instructional information on how to perform a task correctly and efficacy information that the task can

be learned” (Feltz et al., 2008, p. 69). The enhanced curriculum included modeling by teachers and students since students can learn through imitation and repeat the demonstrated behavior. Student modeling is a distinct a benefit in that it helps to “enhance student motivation in general as well as serve as a sign of achievement for the particular student who performed the demonstration” (Butler, 2002, p. 22). When students see that another student has been able to perform the modeled behavior, it can provide assurance that they can also perform the task and serve as motivation to keep trying. This research studies the impact and benefits of observational learning to the students’ cognitive learning and performance ability.

Self -Efficacy

Self-efficacy also played a major part in my research as it goes hand in hand with observational learning. Bandura (1997) defines self-efficacy as beliefs in one’s capabilities to organize and execute the course of action required to produce given attainments (p. 3). In other words, self-efficacy refers to the belief that it is possible to perform the behaviors needed to yield the desired outcome (McCullagh & Weiss, 2002). Efficacy beliefs are based on four sources of information: mastery experiences (past performance), vicarious performances (watching others), verbal persuasion, and affective or physiological states (Feltz et al., 2008). The most influential sources of information are mastery experiences. The information is gained through self-appraisal in past experiences. Another method, vicarious performances, allows one to observe and compare oneself with others or outside information such as the use of television or visual media (Feltz et al., 2008). Additionally, verbal persuasion provides information through feedback and instructional strategies. Finally, physiological states allow one to determine

their ability to complete a task based on the idea of their physiological condition (Feltz et al., 2008). Therefore, self-efficacy is determined through appraisal and interpretation of these sources of information.

As a major contributor to sport, self-efficacy showed impact on the student's results on learning and performance in the enhanced curriculum. This is important because if the student does not believe they can produce the outcome of the modeled behavior, the results may be lower effort exertion or lower persistence, or the student may choose not to perform the activity at all (McCullagh & Weiss, 2002). Self-efficacy beliefs are specific to certain purviews of functioning and do not embody a global characteristic. Often, one lacks confidence in one particular area but not as a whole (Feltz et al., 2008). For example, in swimming, a student might not be confident in their ability to perform the backstroke, but sure of their ability to perform the front crawl. It was essential as an instructor to help students achieve high self-efficacy in all domains of the swim curriculum.

As mentioned previously, past performance can play a significant role in influencing self-efficacy information through self-appraisal of one's performances (Feltz et al., 2008). If past performances are viewed overall as successes, self-efficacy beliefs generally increase. If past performances are viewed as overall failures, it can decrease self-efficacy. This is observed in a study done that examined the effects of self-efficacy on swimming performance. The findings showed that self-efficacy can be a determinant of performance (Theodorakis, 1995). In the study, 42 students in a university physical education class participated and were asked to rate their expectations of ability to swim distances from 20-45 meters in 20 seconds. Each participant was given a warm up period

to practice and then given two trials followed by a 10-minute rest period. After the two initial trials, each subject was told of their performance and asked to set a goal for the third trial. The rest and goal setting process was repeated before the third attempt. The study found that past performance had a significant influence on determining self-efficacy to perform the task. This study was considered in my research because students' self-efficacy beliefs in swimming can impact the implementation of the enhanced curriculum results. During lessons, feedback was given to students on past performances in order to help develop their skills, and students were encouraged to believe in their ability to perform a task correctly and effectively.

Theodorakis (1995) also found that when past performance was removed, personal goal setting mediated the relation of self-efficacy to performance. During the swim unit, students were instructed to set personal goals for themselves in order to increase their thoughts of accountability for their actions. Goal setting can greatly impact self-efficacy opinions of athletes both positively and negatively. If performances fall short of goals, it can result in dissatisfaction. The dissatisfaction can result in either increased effort to meet the goal or discouragement and decreased effort or possible goal abandonment (Feltz et al., 2008). It was important in my study not only to allow students to set goals for themselves, but also to encourage students to continue to work towards completing their goal if they are not successful at their first attempt.

Keeping students motivated was essential in increasing their self-efficacy beliefs. Another challenge was ensuring that goals that were set presented enough challenge to keep students motivated. Bandura (1997) explains that it is common in competition to become complacent after easy successes. This is something that the curriculum

developers wanted to avoid in the enhanced curriculum as students needed to be challenging themselves to improve and achieve high physical activity levels. Butler (2002) suggests that performance goals be, “objective, measurable, specific, short in duration, meaningful to the student, individualized, and set at an appropriate level of difficulty” (p.18). This can help to ensure that goals are effective as well as motivating as perceived self-efficacy is improved.

In determining the impact of the enhanced curriculum on student self-efficacy, it is important to begin with assessment. Assessment of the implementation provides baseline information on self-efficacy beliefs and also determines areas for improvement. Feltz et al. (2008) discusses the importance of including assessment on thoughts and feelings as well as behaviors in order to receive the most valid information.

In order to improve self-efficacy after determining the areas that could potentially be an issue, interventions are incorporated into the curriculum to help students change the negative behavior or belief. There are many types of intervention strategies that have shown to improve self-efficacy in athletes. Modeling (observational learning) has been used for skill acquisition among athletes and is a significant part of the learning process in the enhanced curriculum.

Swim Curriculum

Although swimming is often thought of as one of the most dangerous sports, it is actually low on the list of sports accident reports (Rheker, 2004). With proper instruction to promote safety, swimming can also be beneficial. Including swimming in a curriculum can help students reach a higher level of physical activity, in addition to gaining confidence in the water.

Learning to swim is the best way to understand risks involved and to get the most out of the aquatic experience in a safe and enjoyable way...The benefits of swimming are far greater than the risks involved as long as it is taught appropriately and includes safe procedures and proper mechanics. These are lessons that can last a lifetime. (Fronske, 2012, p. 310)

This is the focus of the enhanced curriculum. Students were taught the importance of safe practices while in a controlled and enjoyable environment. Swimming is a sport that may benefit students who may not excel in other sports or activities. It provides a unique experience and “students, who do not exhibit mobility, speed, or agility on land might excel in swimming” (Grosse, 2005, p. 4). As students learn the motor skills swimming entails and become comfortable with the type of movement that is required in the water, it prepares them to be successful in many different activities (Grosse, 2005). Since the goal is living a healthy and active lifestyle into adulthood, swimming is beneficial to a physical education curriculum. Swimming is a life-long skill that can be done by almost anyone at any point in his or her life. It does not require a high level of physical fitness and can be done by persons with disability (Grosse, 2005).

Since swimming can be done at a personal pace, it is beneficial to those that perform at a lower fitness level while still working every muscle in the body (Butler, 2002). The pace can be steadily improved as training continues. It is a sport that can be done with virtually no equipment; all that is needed is water, making it accessible to many. Many communities offer swimming facilities that are available to the public. Swimming provides students with many fitness benefits. Grosse (2005) explains that the resistance of the water helps to build strength and flexibility. As swimmers extend the amount of time they spend in the pool, endurance is improved. It also improves circulation and aerobic capacity.

Since the third cycle of action research was composed of a physical education class with students that vary in swimming abilities, it was important to cover all the basics of safety in swimming. Rheker (2008) discusses the importance for rules to be presented before the first visit to the swimming pool. The rules should be posted around the pool area in addition to a hand-out given to students and parents. Rules should also be covered orally, before the entering the water, to ensure clear understanding. It was essential to make students aware of the possible dangers involved with the water and also the behavior expected in the pool area.

To use swimming as a form of physical activity, Bielec (2007) found that using the amount of space available more wisely to increase the level of fitness, teaching informational lessons that maximize student activity time, and including instruction based around physical activity will allow children to reach the appropriate amount of activity. Using a swim lesson in a physical education program can increase the amount of activity that students receive, leading to healthier and fit students. There were many additional factors to consider when developing a swim curriculum. Bielec notes that one of the most difficult tasks in creating a swim lesson is choosing the right exercises for all children when they vary in swimming abilities. Consideration was taken when developing the lessons to insure that all students were included and were receiving adequate physical education. Separating children into groups based on their skill sets is a recommended method to address this diversity. While activity levels and grouping were the main concern of instructors, other problems reported were children skipping class, not respecting the rules, and too much noise during lessons (Darst & Pangrazi, 2012). These are situations that can be averted by using organizational skills that can be developed by

teachers as they gain experience. In this current research, Bielec's findings, when developing the enhancements to the swim curriculum, proved to be a primary focus on improving the amount of time used for physical activity during a swim lesson, while taking into consideration the different ability levels.

There are many aspects that went into developing successful swim lessons to be incorporated into the enhanced curriculum. The Young Men's Christian Association (YMCA) model for swim lessons follows four steps: preparation, presentation, practice, and feedback. Proper preparation is essential to begin swim instruction. As any other lesson, objectives should be prepared for each class. The instructor should have adequate knowledge of what will be taught and planning should account for students' abilities. The YMCA (1999) swimming fundamentals also delve into safety. It is mentioned that an orientation should occur at the beginning of the swim unit. The orientation should cover important aspects of safety. Pool rules should be reviewed with students. This should include student participation in developing the rules. Any rule that applies to safety should be very clear. Student expectations and behavior requirements should also be covered. Consequences for misconduct should be consistent. Students should be informed on how to enter and exit the pool in an appropriate manner.

The YMCA swim lesson curriculum confirms Bielec's notion of taking the amount of space available into consideration and discusses that teachers should account for the number of students they have, the space provided, and the equipment available (1999). Planning appropriately for space can ensure maximum activity time for all students. It also helps to keep students safe by ensuring that the appropriate amount of safety equipment, such as flotation devices and kickboards, is available.

The presentation step is the instructor's chance to demonstrate an objective or skill for the lesson and also gauge student knowledge of the subject matter. During presentation, it is important to teach to the age group, using words and language appropriate to the group. It is important when introducing a skill to ensure all students can see and hear the teacher, as well as to reduce opportunity for distractions (YMCA, 1999). All students being able to hear and see the presentation is essential to keeping them safe and interested. Instructors should ask questions of the students to check for understanding before students move on to the practice.

The practice portion should continue to be student-centered, allowing students time to develop. Various activities, games, and skill building should be included during this time. Students should repetitively perform skills in order to build proficiency, develop endurance, and improve strength and speed (YMCA, 1999). It is again important to make sure activities were aligned to the age group being taught and to accommodate different ability levels. As the students begin to perform the tasks assigned, it is the teacher's job to observe and evaluate. One must watch the performance of a student, pinpoint what it being done well and what could be improved upon, and explain in basic and clear terms one step at a time (YMCA, 1999).

Observation is germane to helping students improve and develop new skills. Observational learning techniques were applied to instruction in the enhanced curriculum as an essential tool to help students learn. As previously mentioned, instructors demonstrated stroke techniques and videos were shown to help students see the tasks performed correctly because modeling is such a powerful way of transmitting information. It was very important to use models that provide the most salient

information of the modeled behavior (Feltz et al., 2008). Providing students with information on how to perform tasks the correct way can help to improve their understanding as they practice. It was also important to use student models during lessons to explain skill technique. Student models also improve student self-efficacy because they can relate to the model, and therefore find that they can perform with similar ability compared to an expert model with which they view as having superior ability (Bandura 1997). The instructor should give feedback to students during the lesson in order to improve student knowledge of the activity. “Students get their own feedback from sensory cues of sight, sound or feel. However, they may need [the instructor’s] help in noticing how what they sense relates to their performance” (YMCA, 1999, p. 55). Providing feedback was very helpful in increasing a student’s knowledge and skill, while developing rapport and a trust relationship with the teacher.

Water Safety

“Water demands the respect of all who enjoy in its many charms” (Thomas, 2005, n.p.). Whether a beginning swimmer or an experienced and competitive swimmer, it is important to have knowledge of water safety and respect the possible dangers that it brings. Respecting the power of water can eliminate possible injuries and drowning.

Stallman, Junge, and Blixt (2008) dive deeper into swimming with focus on safety by identifying the need for teaching swimming according to the causes of drowning. When analyzing the causes of drowning, these authors developed a list of key elements such as being unaware of the danger, something happening before or during entering the water, and inadequate survival skills. The authors believe that the way swimming is taught now varies too much and focuses on learning specific strokes or travelling a

certain distance, rather than focusing on specific skills necessary to prevent drowning (Stallman et al., 2008). This study built upon these findings and attempted to provide students' knowledge of safety as well as to improve skills necessary to be successful in the water. Hopefully, the focus on skills that will better prepare students for any possible situation instead of just being in the swimming pool during swim class can reduce incidents of drowning. When learning swimming skills, children should be able to swim underwater just as well as they can above, be comfortable swimming on their back just as much as they are on their front, and have acquired a range of well-developed general movements (Stallman et al., 2008). Teaching swimming should include the development of comfort and ease in the water; less panic and a more developed skill set may create more ability to get out of emergency situations.

Butler (2002) continues the discussion on safely teaching swimming by mentioning that teachers should manage risks by ensuring certified lifeguards are present, ensuring students stay hydrated as they may forget to have enough fluids since they are in the water, and paying attention to any complaints of pain while swimming as this could potentially become a serious problem. These are significant factors to take into consideration when teaching swimming.

In enhancing the swim/safety curriculum, the safety lessons were presented during each class to stress the importance of safety and to improve students' knowledge of swim safety and survival. Instructors that provide students with the information they need on water safety prepare them to save themselves as well as others (Grosse, 2005). A study done by Asher, Rivara, Felix, Vance, and Dunne (1995) examined the benefit of water training safety as a means of reducing risk of drowning in children with no prior

swimming experience. They studied two groups of children chosen by randomized design receiving water safety instruction over 8 or 12 week periods and how it affected swimming ability, poolside manner, and competency in the pool. Trained and certified instructors gave water safety lessons twice per week. At the end of the program instructors rated water safety skills and also used assessment to judge improvement. The findings showed that water safety training significantly improved swimming ability and slightly improved out-of-the-water behavior poolside. The study provides evidence that there are potential benefits of drowning prevention from water safety training for children. The results were used to help guide the design of my study and the enhanced curriculum. The goal of the enhanced curriculum was to create a safer environment for students to learn to swim, not only during the physical education class, but also in skills that they can take through life and apply to any situation involving water and drowning prevention.

Swimming Assessment

In order to determine student acquisition of knowledge, assessments were conducted periodically in the enhanced curriculum. Assessments helped ascertain if students were learning and what they were retaining. As Grosse explains, they can measure “form, skill application, knowledge, behavior, attitude, or decision making” (p. 5). It was important in this study to determine students’ abilities in these areas, focusing on their knowledge, attitude, behavior, and decision-making, and to apply to safety information. Grosse (2005) also mentions the need for discussion following an assessment. The post conversation should be to ensure that both teacher and student are on the same page as far as goals and results and to provide feedback to the student.

A pre/post test was used to measure students' cognitive knowledge of the swim safety lessons. According to Grosse (2005), written assessments provide important documentation for teachers. First, assessment shows whether the student knows the information, and second, it provides evidence of the teachers' safety warnings and the students' understanding of the cautions. Providing students with multiple options allowed me to really gauge student knowledge and see what needed to be revisited. Grosse (2005) explains teachers should have students amend their answers so that "they have a better understanding of the sound educational practices in aquatics" (p. 11). The GFJRHS Community of Practice decided to incorporate the written test at the beginning of each unit (as a pre-test) and again at the end of the unit (post-test). Incorporating the written assessments to see how student understanding improved throughout the unit gave feedback for modifying the curriculum as needed. Also, pre-test and post-test swim assessment criteria (Appendix A) were used to ascertain the level of swimming ability for each student and whether the student exhibited growth over the 19 day intervention. The criteria are a modified version of the American Red Cross (ARC) Learn to Swim program (American National Red Cross, 2009).

Community of Practice

Using a Community of Practice (CoP) has played a pivotal role in developing an enhanced curriculum at GFJRHS. Wenger (1998) discusses how most institutions today are based on the theory that learning is an individual process, with a start and a finish that should be divided from our other behaviors. Wenger argues that this theory is outdated and that improvement will come from the collective knowledge of a CoP. More people mutually transferring ideas over a period of time creates more change, especially in

education. He discusses that a group becomes a CoP when “members share a concern, set of problems, or a passion about the topic, and deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger, McDermott, & Snyder, 2002, p.4).

There are three key elements of a CoP. First, the CoP needs to be a joint enterprise. This goes beyond having a simple goal; it requires a personal investment in the domain (Wenger, 1999a). In the study, the GFJRHS CoP shared the concern for enhancing an existing curriculum in order to increase safety.

Second, the group needs mutual engagement; members interact with each other, learn together, and have relationships. Merely having a common interest is not sufficient to define the CoP. Since our CoP has a core group that all work in the same department, interaction is frequent and consistent. Meetings were held to discuss what would be done to change the curriculum. Relationships have previously been established both professionally and personally among members.

Finally, the CoP requires a shared repertoire. A CoP has shared resources, such as procedures, ways of communicating, rationale, tools, values, lessons learned, principles, ideas, etc. (Wenger 1999a). Since our CoP all work together, many of our procedures and communications are the same. We share resources within the department and often share ideas, lesson strategies, and information.

As we have established the foundation of what makes a Community of Practice legitimate, we now need to look into how one is nurtured and sustained. In order to be successful in working together on the curriculum, it is essential, as a community coordinator, to properly nurture the CoP. Wenger (1999a) notes that cultivation begins with examining goals; the CoP needs to be aware of the goal to be accomplished. The

success depends mostly on the voluntary participation of the members and on the rise of leadership from within (Wenger et al., 2002).

In the study, as the local expert in the swim curriculum, I assumed the role of community coordinator and worked to develop and sustain the CoP, kept members engaged, and organized the discussions. According to Wenger et al. (2002), community coordinators are members of the community that take that leadership role. They are often people that have creative ideas and can provoke thought in others. They may emerge naturally or often the community sponsor will select someone for this role. The coordinator acts as a facilitator in order to keep the focus on the community's goals and takes care of key tasks, such as ensuring the domain is the center of attention, keeping members together, and pushing towards development within the group (Wenger et al., 2002, p. 80).

The decision on who should lead or coordinate the community should not be based solely on expertise in the area. It should be based on the ability as a planner: someone who will be able to set up meetings, begin dialogues, and keep other members eager and interested in the domain (Wenger et al., 2002). In one study, the authors examined the difficulties of trying to form a CoP within an educational department. They describe having a Director of Studies act as a coordinator as beneficial in triggering engagement and forming a shared interest in improving teaching within the department (Laskov, Mann, & Dahlgren, 2008). Taking this into consideration as the Swim/Safety CoP implemented the enhanced curriculum, it was pertinent that as the facilitator, I did not use a title. In fact, Wenger shows that a group with members with defined roles without titles aids in all members feeling part of a group, rather than seeing the group as a

hierarchy (Wenger 1999b). It is prudent to include everyone in group discussions and let individuals step into leadership roles as necessary.

When discussing Communities of Practice and sharing knowledge, boundaries come into play. Boundaries are important because they bridge communities together, making it easier to learn new information from each other (Wenger, 1999b).

Communities of Practice are the products of many communities engaging together; they do not exist by themselves. According to Wenger, in order for a Community of Practice to be successful, there must not only be a connection inside the group, but also the ability to develop relationships with other communities as well (1999a). In nurturing the CoP, this brings to discussion the member or members who act as conduits between the CoP and other communities. These members, called boundary brokers, are key to bringing a CoP together. The more members work as boundary brokers, the more information and diverse ideas are introduced to the CoP. In the current research, we attempted to break down boundaries to include outsiders and experts in the field, bringing them into the CoP as peripheral members. I acted as the boundary broker in establishing this relationship and sought other cohorts to do the same.

Nurturing a Community of Practice has been proven to be an effective strategy in creating change. One study examined a school district that received a grant to create a district-wide elementary school curriculum (Parker, Patton, Madden, & Sinclair, 2010). Through a CoP consisting of three physical education teachers and university staff (experts), the CoP created an elementary school physical education curriculum. The purpose of the study was to see what maintained and supported the CoP. Empowerment was found to be the most robust finding of this study (Parker et al., 2010). The authors

conclude that the teachers' development of knowledge created a widespread feeling of content that maintained and pushed them through the process (Parker et al., 2010). This insight is in agreement with Wenger's sharing knowledge and "taking ownership" approach. The GFJRHS study built upon that by focusing on the results obtained from using a CoP to enhance the curriculum. I monitored what supported the community and/or what might hinder its effectiveness.

Summary of Literature Review

In summary, my review of literature in the field has guided my action research study design by providing relevant research on the topics of physical education, swim curriculum, sport psychology, and Communities of Practice. I have determined, through the review, the importance and need for physical education programs in secondary schools to keep children healthy and active. In Cycle Three of this action research study, I examined and evaluated the effects of an enhanced secondary swim curriculum on student swim capabilities, knowledge of water safety, and effects on self-efficacy.

This review of the literature revealed that swim activity is a necessary and effective activity that can be done throughout a lifetime to attain fitness and survival skills. I was able to use information found on safety in swim curricula to discern necessary changes to the existing curriculum, which needed more focus on safety. I applied observational learning through demonstrations and safety lessons to the existing curriculum to determine the impact it had on student cognitive knowledge of water safety and swim stroke capabilities, as the literature notes that it can be an effective way of teaching people what to do and how to do it. Observational learning is a common way of

learning that was incorporated into the new curriculum and was significant in helping students learn to swim and be safe around the water.

As part of this cycle, I examined the self-efficacy of students and its impact in the enhanced curriculum compared to the pre-study unit because the current scholarship connotes that self-efficacy can greatly impact performance in sport, through increasing or decreasing confidence levels leading to increased or decreased effort put forth.

Finally, as a secondary facet of the study, I examined whether a Community of Practice was effective in implementing a swim curriculum, as the review of literature has shown that it can be a useful tool in solving problems, developing new ideas, and accomplishing a common goal.

Previous Action Research Cycle Findings

The first cycle of action research (in the spring of 2011) was to determine within my local context, “Can a Community of Practice be used as an efficacious conduit to enhance a swim/safety curriculum?” The cycle sought to: 1) Determine if a CoP actually existed, 2) Determine if the CoP was onboard as to developing the curriculum, and 3) Sample the current curriculum to incorporate possible innovations as guidelines for future implementation. Data gathered and analyzed in the first cycle included observations, surveys, and interviews.

Wenger’s guidelines of defining a Community of Practice were used to ascertain that the GFJRHS CoP is a Community of Practice. I found that all members had a personal investment in the domain, share mutual engagement and interaction with each other, learn together, and have relationships, a shared repertoire, and shared resources. The cohorts showed ownership of the goal of enhancing their swim/safety curriculum.

The CoP gives up their prep period to help lifeguard during the swim unit. This is further evidence that a CoP exists within our department. Observations of cohorts teaching the pre-study curriculum provided information on where we could improve safety guidelines and the curriculum. The survey conducted showed that all CoP members worked well together and were comfortable in doing so. The goal of the interviews was to gain information on the participants' perceptions of the pre-study swim curriculum as well as to identify any disparity of knowledge regarding the curriculum among the participants.

Overall, the interviews clearly indicated that the participants were enthused about developing a swim curriculum with safety as a primary focus and an updated and more dynamic curriculum to be implemented. Safety measures that the participants stressed to be mandatory included an Emergency Action Plan (EAP), that American Red Cross certification is required for all teachers, and that rules be clearly delineated, posted at the pool and distributed. The CoP recommended that a revised curriculum should include varied activities, stroke development, and fitness. Swim curriculum development results indicated that the cohorts were all in agreement as to creating and enhancing a swim/safety curriculum and were willing to work on a district-wide program. This CoP, with all five members in agreement regarding the need to expand the curriculum, could be determined to be a core group, with room for expansion of the CoP to incorporate other district personnel and local experts in the field in order to accomplish the goal.

In the second cycle of action research (fall 2012), I worked with the CoP to develop what the enhanced curriculum should include. We had meetings to discuss the need to incorporate safety mini lessons at the introduction to each class. We also

established the need to have an assessment for the swim unit to gauge student knowledge on safety and skill development.

I used a digital ethnography to determine the CoP members' ideas on safety around the pool area. Pictures were taken of each area and members provided comments on what they observed in the pictures. I used the information to find common themes and decide what could be improved upon and what seemed to be working well. The pool was not operational at the time of the photos so some observations made by participants would not be valid during pool operation. However, participants identified some safety concerns, such as glare on top the water, depth of the pool area, no diving signs, position of lifeguard chairs, and a gate that must be locked at all times. Due to the fact that participants identified glare as an issue, as a department we discussed ways of moving our positions or create "roving" stations in order to get a better view of the water. We decided to include an explanation of the 'no diving' rule during the initial pool rule introduction and also a safety mini lesson to be included in the enhanced curriculum on diving. With regard to lifeguard chair positions, we reviewed our zone coverage to ensure the pool is appropriately monitored. Since participants viewed a picture of the gate and all identified the need for a lock, we reiterated the need for security when entering and exiting the pool to ensure safety for all students.

Throughout the second cycle of action research (in fall 2012), I learned that the CoP is an important conduit in providing information on what should be included in the enhanced curriculum. The members are experts that know their content and have the ability to identify challenges for the curriculum such as grouping students, swim testing, and assessments to be performed. I've learned that enhancing a swim/safety curriculum

can be a daunting process. Mistakes cannot be made when safety for our students is at risk. I learned that the research of other curricula has given me more confidence in our aquatics knowledge. I found that during the previous cycle, the initiation of the study itself motivated the CoP to come together to improve their program. The collaboration of the members, the passion for the innovation, and incorporation into the program was accelerated due to cohesiveness of the CoP as a result of this ongoing study. As I moved on to the next cycle of action research, I continued to collaborate as a CoP as the curriculum was implemented.

Through the results of the previous action research cycles in combination with what the CoP discovered through the review of literature, the CoP determined the need for the development and implementation of an enhanced secondary swim/safety curriculum, as well as determining what enhancements should be made.

In the action research cycle 3 (fall 2013), the enhanced curriculum continued to follow Dynamic Physical Education (DPE), as it was pre-study, but with the addition of observational learning techniques such as demonstrations, videos, and guided assistance. It also included new safety mini lessons at the beginning of each lesson, which addressed the causes of drowning and safe practice around water. The inclusion of a swim test determined students' abilities in various areas, focusing on their swim ability and rating them on a scale from one to six. This cycle of action research sought to determine answers to the following research questions:

1. To what extent does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills?

2. How, and to what extent, do students value different observational learning techniques presented during the swim unit?
3. To what extent does the new swim curriculum increase students' swimming capabilities?
4. How does working as a Community of Practice influence implementing an enhanced swim curriculum?
5. What challenges and improvements do participants report during the enhanced curriculum?

CHAPTER 3

METHODOLOGY

Introduction

This chapter describes the Cycle 3 of the action research study of the enhancement of the swim/safety curriculum at GFJRHS. Methods used to incorporate the enhancements, accumulate data, and evaluate the accumulated data will be illustrated and defined. A timeframe of the cycle of action research will also be delineated.

Methods Approach

This mixed methods study addressed whether observational learning techniques and mini aquatics safety lessons incorporated into an enhanced swim curriculum improve students' swimming ability, self-efficacy in swimming, and safety knowledge. A triangulation mixed methods design was used, a type of design in which different, but complementary data, were collected on the enhanced curriculum. According to Greene (2007), "The classic rationale for triangulation is to increase the validity of the construct and inquiry inferences by using mixed methods with offsetting biases, thereby counteracting irrelevant sources of variation and misinformation or error" (p. 100). In this study, pre-test and post-test swim assessments, as well as pre-test and post-test surveys were used to test the theory of observational learning that predicts that students exposed to observational learning techniques will learn to perform a task more efficiently for seventh grade male students at GFJRHS. Also, the pre-test and post-test surveys were used to test whether the enhanced curriculum has increased swim ability, self-efficacy, and water safety knowledge of seventh grade male students at GRJHS. In addition to this data collection, focus group interviews explored how, and to what extent, the enhanced

curriculum impacted swim ability, self-efficacy, and learning for seventh grade male students at GFRJHS. I wrote observations in a journal during the five-week period providing data to determine the efficacy of the implementation and as additional input to the triangulation. Both quantitative and qualitative data were collected to integrate the strengths of the varied forms of research to determine the impact of the enhanced swim curriculum (Creswell, 2009).

Concurrent triangulation was the approach for this study. According to Creswell, “In a concurrent triangulation approach, the researcher collects both quantitative and qualitative data concurrently and then compares the two databases to determine if there is convergence, differences, or some of both” (Creswell, 2009, p. 213). The collection of various data sources adds to the reliability of the assertions reported in Chapter 5.

Setting

The study took place within a Phoenix area school district. The district currently has a total of 11,857 students. The percentage of students classified as “not white” is 29.91%. The district is predominately comprised of middle class families. GFJRHS is located in a town in the East Valley of Maricopa County, Arizona. GFJRHS enrolls 947 students with 490 seventh grade students (240 girls and 250 boys), and 457 eighth grade students (221 girls and 236 boys). The majority of students at GFJRHS are middle class. The ethnic distribution of the student body is presented in Table 1.

Participants

CoP

The first participant group in the study consists of current CoP members of the GFJRHS Physical Education department who created the enhanced curriculum. The CoP

is comprised of two male (one being myself) and three female teachers. There were two male participants; Participant 1 (P1), 27 years old, has taught at GFJRHS, including the current swim curriculum, for the last two years and has been a water safety instructor for 11 years. The participant action researcher, age 36, has taught at GFJRHS for six years, including the swim curriculum for all six of those years. The females of the group include Participant 3 (P3), age 36, with 13 years of experience at GFJRHS, teaching the swim curriculum for the past five years. Participant 4 (P4), age 40, is in her fourth year at GFJRHS, and has taught the current swim curriculum all four years. Participant 5 (P5), age 39, with 16 years teaching experience at GFJRHS, has taught the swim curriculum for six years. All participants are lifeguard certified by the American Red Cross. Male teachers and P5 (4 of 6 classes) teach the seventh and eighth grade boys swim unit while the other two female teachers provide extra coverage during their prep periods.

Participants are a purposeful sample because they are considered experts in teaching swim curriculum at the secondary level and collaborate directly with the participant action researcher as a Community of Practice. Together, the GFJRHS physical education teachers combine efforts to coordinate class curricula as needed to establish goals and guidelines for the department. The current department chairs, liaisons to the administration, are P3 and the participant action researcher. The group accomplishes most goals by informal team meetings. The CoP created, implemented, and aided in the evaluation of the student population. Data collected includes focus groups and research notes from the focus groups, which contain their evaluation of the enhanced curriculum.

Student Participants

The physical education curriculum swim course at GFJRHS is conducted over five-weeks in the fall, with an additional five-week program in the spring. In order to accommodate the time frame of this study, this action research cycle was conducted over a five-week period (19 lessons) in the fall semester, 2013. The student participants' group consisted of seventh grade male students ($n = 192$) taking the physical education swim class as their first junior high swim experience. The sample excluded students ($n = 12$) who do not attend a traditional PE class (self-contained students and online PE). Students who missed more than three swim lessons ($n = 7$) or those who did not complete both the pre-test and post-test measures ($n = 25$) were excluded. I have chosen a population sample in this study to learn how a junior high swim curriculum affects first year seventh grade junior high students at GFJRHS. Seventh grade students were selected because they had never been exposed to a junior high swimming curriculum. Males were also selected because I teach male physical education classes only. Female students received the same curriculum, which includes all measures except for the student focus groups.

A pre-test and post-test of students' swim capabilities is part of the enhanced curriculum. Swim abilities were determined through the pre-test, which put students into levels one through six based on the Learn to Swim program (LSP) of the American Red Cross (See Appendix A). Pre- and post-surveys were given to all student participants as part of the enhanced curriculum (See Appendix B).

Purposive criterion sampling was used to select students for the focus groups so that all six levels were represented. According to Patten (2012), purposive criterion sampling is used, "when there are a number of criteria to be applied in the selection of the

sample” (p. 149). These selected participants took part in focus group interviews in which they answered questions based on their personal evaluation of the curriculum and its impact on their swim capabilities, observational learning preferences, self-efficacy, and safety knowledge. Selected students were invited to participate in the study with participation being voluntary. Permission was obtained from both the student and guardian in order to participate in focus group interviews. It was clearly noted that participation or nonparticipation in the study would have no bearing on the student’s grade (See Appendix C).

Action Plan

The action plan was implemented over a 19-day period, with the enhanced curriculum being implemented in the last two days of Week 1 and concluding the second day of Week 5. Class periods are 47 minutes long. Allowing students time to change clothes and walk to and from the pool area reduces actual instruction time to only 30 to 35 minutes per day. Mini safety lesson and modeling were incorporated throughout the enhanced curriculum. The mini safety lessons were conducted daily, with the exception of when a video was shown. The swimming videos were shown on the first day a new stroke was introduced. The teacher and peer models were utilized every day the students were practicing swimming skills.

Action Plan Implementation

Week 1 (September 2, 2013)

During last two days of this week, students were given a 18-question survey regarding the students’ personal perspectives of their current swim capabilities, perspective on observational learning, self-efficacy towards swimming, and safety

knowledge (See Appendix B). Students were also provided a full day on rules, procedures, and the Emergency Action Plan (EAP).

Week 2 (September 9, 2013)

On the first day of the in-water portion of the swim unit, students were pre-tested on their swimming abilities. P1 and I evaluated all students floating in the prone and supine positions, treading water, freestyle, backstroke, and breaststroke according to American Red Cross (ARC) Swim Levels. During this week, lesson plans with the enhanced activities were incorporated into the curriculum and were implemented during the entire three-week instruction period. See Appendix F for an example of a lesson plan.

Week 3 (September 16, 2013)

Lesson plans with the enhanced safety activities continued. Journaling the CoP cohort's perceptions of the curriculum being implemented continued.

Week 4 (September 23, 2013)

A post-test of students' swim capabilities was conducted. The post-test was a replication of the pre-test, with all students again being classified by American Red Cross Learn to Swim program.

Week 5 (September 30, 2013)

Student participants completed a 24-question post-survey. In addition, purposive criterion sampling was used to select students from all six swim levels in order to participate in focus groups. These groups participated in two separate group interviews of six students each providing their personal evaluation of the curriculum and its impact on their swim/safety capabilities. The CoP members also participated in a focus group regarding their observations and perceptions of the implementation of the curriculum.

Data Collection

Data were collected during the first-week of the course initiation (Week 1, above) and at the conclusion of the course (Week 5, above). The period of time occurred from September 5, 2013 to October 2, 2013. Additional interviews and review by the CoP regarding the journal observations and perceptions were gathered throughout the implementation of the swim unit and at its completion at Week 5. Data were collected to answer the research questions:

1. To what extent does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills?
2. How, and to what extent, do students value different observational learning techniques presented during the swim unit?
3. To what extent does the new swim curriculum increase students' swimming capabilities?
4. How does working as a Community of Practice influence implementing an enhanced swim curriculum?
5. What challenges and improvements do participants report during the enhanced curriculum?

Figure 1 depicts which measures answer the research question for purposes of triangulation.

Research Question	Pre-Swim Test & Post-Swim Test	Pre-Survey & Post-Survey	Student Focus Groups	Teacher Focus Group	Journal
1. To what extent does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills?		Quantitative	Qualitative		Qualitative
2. How and to what extent do students value different observational learning techniques presented during the swim unit?		Quantitative	Qualitative		
3. To what extent does the new swim curriculum increase students' swimming capabilities?	Quantitative	Quantitative	Qualitative		
4. How does working as a Community of Practice influence implementing an enhanced swim curriculum?				Qualitative	Qualitative
5. What challenges and improvements do participants report during the enhanced curriculum?			Qualitative	Qualitative	

Figure 1. Measure delineation – qualitative/quantitative

Measures

Described below are the tools, also designated as “measures,” that were used for data collection prior to, during, and at the conclusion of the action plan implementation stated above. Data was collected from both student participants and CoP cohort members who conducted the enhanced curriculum classes. These measures included:

- Measure 1 – Pre-Swim Test and Post-Swim Test
- Measure 2 – Pre-Survey and Post-Survey
- Measure 3 – Student Focus Group Interviews
- Measure 4 – Teacher Focus Group Interviews
- Measure 5 – Journal

Measure 1: Pre-Swim test and Post-Swim Test

To analyze research question three, To what extent does the new curriculum increase students’ swim capabilities? I used a pre-test and post-test to measure seventh grade GFJRHS students’ swimming capabilities before and after the implementation of the new curriculum. The assessment coincided with the American Red Cross Learn to Swim program. Students were assigned to levels 1 to 6. On the first day and last day of the in-water portion of the swimming unit, students were instructed to perform a variety of swimming skills (front float, back float, treading water, front crawl, backstroke, breaststroke, change directions, and underwater swimming) and were assessed using a swim testing assessment protocol, which was adapted from the City of Chandler aquatics program swim testing procedures. An example of a student placed in level 2 would be a student who can:

- Enter and exit water safely
- Completely submerge head underwater and blow bubbles for three seconds
- Front and back float without support
- Recover from front and back float without support
- Change directions (roll over from front to back with support)
- Swim 5 yards on front and back with arm and leg action

The full evaluation procedures can be found in Appendix A.

Measure 2: Pre-Survey and Post-Survey

The Pre-Survey and Post-Survey were utilized to answer research questions one, two, and three. Students were given a survey that included four constructs: self-efficacy/perception towards swimming, self-efficacy/perception of water safety, impressions of observational learning strategies (post-test only), and impressions of their current swimming capabilities. Students responded to statements such as, “I can swim well,” “I know what to do if someone were drowning,” “Watching the swimming videos made me a better swimmer,” and “I swim breaststroke well.” The full survey can be found in Appendix B.

I administered the survey to all seventh grade students in the study at GFJRHS. A week prior to the start of the in-water portion of the swim curriculum, they completed an 18-question survey. The first six items of the survey were self-efficacy statements using a 10-point scale. A 10-point scale was used to increase reliability. As Bandura explains, “People usually avoid the extreme position so that a scale with only a few steps may, in actual use shrink to one or two points,” (Bandura, 2006, p. 312). The value of water safety, impressions of observational learning, and current swim capabilities items had a

6-point Likert-type scale (Strongly Disagree, Slightly Disagree, Disagree, Slightly Agree, Agree, and Strongly Agree). A Likert scale removes the neutral option from the scale, thus requiring participants to choose. This type of Likert scale can be referred to as a “forced choice” (Allen & Seaman, 2007). The students were given a hard copy of the survey in a classroom setting (desks and chairs). The students were given and read the following five prompts written on a whiteboard:

- (1) This is NOT a test,
- (2) This is NOT graded,
- (3) Items one through six have 11 options,
- (4) Items 7 through 18 have six options,
- (5) Please answer truthfully.

Students with learning disabilities who could not read fluently were identified and had the survey read to them by a paraprofessional during their language arts class. The procedure was repeated for the post-test, however with 24 questions (six added observational learning questions).

Measure 3: Student Focus Group

The student focus groups were used to triangulate data from the four constructs of self-efficacy/perception towards swimming, self-efficacy/perception of water safety, impressions of observational learning strategies (post-test only), and impressions of their current swimming capabilities. The research questions the student focus groups addressed were one, two, three, and five.

The students selected for the focus group were a “criterion purposive” sample because they were selected based on certain criteria. In this case, the criteria were that the

class contained all six swim levels of participants, and they were seventh graders at GFJRHS (Patten, 2012). The two student focus groups were interviewed the day after the completion of the swim unit during their regular class period. (Each class has multiple instructors to oversee the group while students were separated to participate in the focus group). Both student focus groups represented all swim levels. The first student focus group was conducted during their 3rd hour Physical Education class. The second focus group was conducted during the students' seventh hour Physical Education class. The focus group interviews contained a structured interview protocol, which contained probes under each main question to elicit information regarding the constructs studied (Creswell & Plano Clark, 2010). Students were asked questions such as,

- Can you swim better after taking the swim unit? Why or why not?
- Can you identify a struggling swimmer? How?
- What helped you learn proper swim technique best - the videos, teacher demonstrations, or other students' demonstrations and why?

See Appendix D for the student focus group protocol.

Measure 4: Teacher Focus Group

To analyze research questions four and five regarding the implementation of the curriculum and challenges, I conducted a focus group of the instructors' CoP. The purpose of the CoP focus group was to triangulate the data collected throughout the swim unit in the researcher's journal. All teachers who taught the new swim unit were a part of the focus group. The focus group interview took place after school three weeks after the swim unit (due to schedule conflicts) in a classroom. Teachers were asked questions related to the implementation of the curriculum such as, "Do you feel that the students

have a better idea about water safety than our previous curriculum?” and “Have you noticed an improvement in your students’ knowledge and implementation of safety procedures?” See Appendix E for the full teacher focus group protocol.

Measure 5: Journal

To analyze question five, “How effective is working as a Community of Practice in implementing an enhanced swim curriculum?” I used a research journal to collect information from the CoP during the five-week period. The journaling of the CoP was intended to capture the thoughts of participants on the implementation of the curriculum during its implementation. The journaling took place throughout the five weeks of the action research cycle.

Data Analysis Plan

Quantitative and qualitative data analyses were used to determine what effect the enhanced curriculum had on students. The data analysis is presented below in order from most quantitative to the most qualitative data.

Quantitative Data

Pre-swim test and post-swim test. The descriptive statistics of mean and standard deviation were used to analyze the change in GFJRHS seventh grade boys’ swimming abilities from the pre-test to the post-test. All students were ranked on a scale of 1 to 6 and their scores were put into an Excel file for both the pre-test and post-test. The file was then exported into SPSS to compute the mean and standard deviation of the scores. A *t*-test for two dependent samples was used to measure if there was a difference between pre-test scores of the students and post-test scores. The results of the analysis

were presented in a table. The effect size was measured and rated high, medium, or low based on the distance between the mean of the pre-test and post-test (Creswell, 2009).

Pre-survey and post-survey. Students from seventh grade physical education classes participated in written surveys, both pre- and post-implementation of the new curriculum. The surveys were tested for reliability of the four constructs (observational learning, efficacy, swim abilities, and safety) using Cronbach's Alpha prior to the study and during its implementation in the fall of 2013 (Cronbach, 1951).

Each of the four constructs were analyzed using the descriptive statistics of mean and standard deviation to determine whether the intervention influenced the various constructs, a multivariate repeated measures analysis of variance (ANOVA) were conducted on efficacy for swimming, efficacy for safety, perceptions of swimming proficiency, and perceptions of safety knowledge. Follow up univariate ANOVAs were conducted for each construct. A separate repeated measures ANOVA was conducted to determine which type of modeling was perceived to be most effective. Eta Squared was used to calculate if there was a significant effect between groups on each construct. The effect size was labeled small, medium, or large using a standard scale (Creswell & Plano Clark, 2010).

Qualitative Data

Qualitative data from the focus groups and the journal was analyzed using the constant comparative method (Strauss & Corbin, 1998). In this approach, open coding was used to derive the initial codes. Subsequently, these codes were gathered into larger categories and into theme-related components. The theme-related components were organized into themes from which assertions were developed. Quotes from the focus

group data and the journal were used to substantiate the assertions. After the findings were drafted, I had students and teachers perform a member check by reviewing the outcomes of the study for accuracy (Greene, 2007). Students and teachers reported the outcomes to be accurate.

Validation of Data Analysis

The three types of validation addressed were inter-observer agreement, piloting of instruments, and member checks. The pre-test and post-test included another colleague independently rating swim ability for ten different students. After each of the first 10 students completed the swim test, P1 (who had 10 years of experience as a WSI) and I discussed the appropriate level for the students. We agreed on the placement of all 10 students. Swimming tests were performed with both observers standing next to one another. If an observer had questions on placement, both observers would evaluate the students together in order to ensure inter-observer agreement (Patten, 2012). Cronbach's Alpha analysis was performed on all survey constructs and the results are reported in Chapter 4. All students (n = 12) and teachers (n = 4) that participated in the focus groups were presented with the findings of the research and confirmed the accuracy.

Presented here in Chapter 3 was the methods and the analysis plan that were used to conduct this action research project. Chapter 4 interprets the actual data as analyzed post implementation of the curriculum.

CHAPTER 4

DATA ANALYSIS AND RESULTS

The purpose of Chapter 3 was to describe the research plan, methodology, and how data was collected throughout the action research process. In this chapter, I will describe the procedures used to interpret the data collected on the participants and the intervention. The results of the data collected will be displayed in a table and interpreted within the text.

Both quantitative and qualitative data were collected to determine the effect that the curriculum had on students. The results are presented in three sections. In the initial section, results for the reliabilities of quantitative measures for the study are presented. Results from the pre-test and post-test surveys, as well as the pre-test and post-test swim assessment, are presented in the second section. In the final section of the chapter, qualitative outcomes from the focus group interviews and notations of the researcher journal will be reported.

Reliabilities of Measures

Prior to conducting analyses related to the research questions, reliability analyses were conducted for the various measures. Using pre-test data, Cronbach's coefficient α was computed for the following measures: self-efficacy for swimming, self-efficacy for water safety, perception of swim skills, and perception of water safety skills. Using post-test data, Cronbach's coefficient α was computed for the ratings of the effectiveness of observing different models for the following measures: observing video models, observing teacher models, and observing peer student models. Results for the reliability

analyses, which are presented in Table 2, showed all reliabilities exceeded .70, a minimal acceptable level, by substantial margins. See Table 2 for the complete reliability results.

Table 2

Cronbach's Coefficient α for Measures in the Study

Measure	Observed Coefficient α
Self-efficacy for swimming	.92
Self-efficacy for water safety	.80
Perception of swim skills	.87
Perception of water safety skills	.78
Observing video models	.89
Observing teacher models	.90
Observing peer student models	.88

Quantitative Results

Research Question 1

A multivariate repeated measures analysis of variance (ANOVA) was conducted to determine whether the new swim curriculum increased students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills, corresponding to research question 1. Results from this analysis indicated the overall test was significant, multivariate $F(4, 188) = 50.30$, $p < .001$, with $\eta^2 = .517$, which is a large effect size for a within-subjects design based on Cohen's criteria (Olejnik & Algina, 2000). Cohen (1988; cited in Olejnik & Algina, 2000) suggested η^2 values equal to or exceeding .01, .06, and .14 are considered to be small, medium, and large effect sizes, respectively, when proportion of variance accounted for is used as a measure of effect size. Because the multivariate test was

significant, follow-up repeated measures are warranted and needed to determine which of the variables were significantly different from the pre-test to the post-test assessment.

Individual univariate repeated measures ANOVAs were conducted for each of the four variables. For self-efficacy for swimming, the repeated measures ANOVA was not significant, $F(1, 191) = 1.07, p < .31$, which indicated no difference between the pre- and post-test means for this variable. Means and standard deviations for each of the variables by time are presented in Table 3.

Table 3

Means and Standard Deviations by Variable and Time of Testing

Variable	Pre-Test Score		Post-Test Score	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Self-efficacy for swimming	8.33	2.01	8.43	1.84
Self-efficacy for water safety	6.62	2.34	7.85	1.91
Perception of swim skills	4.72	0.96	5.29	0.66
Perception of water safety skills	4.26	0.88	4.86	0.75

By comparison, means for the other three variables were significantly different between the pre- and post-test assessments. For example, the repeated measures ANOVA for self-efficacy for water safety was significant, $F(1, 191) = 71.06, p < .001$, with $\eta^2 = .271$, which is a large effect size for a within-subject design based on Cohen's criteria. Note, that this is reflected in the large differences between means. Similarly, the repeated measures ANOVA for knowledge of swim skills was significant, $F(1, 191) = 119.04, p < .001$, with $\eta^2 = .384$, which is a large effect size for a within-subject design.

Likewise, the repeated measures ANOVA for knowledge of water safety skills was significant, $F(1, 191) = 102.87, p < .001$, with $\eta^2 = .350$, which is a large effect size for a within-subject design. Taken together, the results showed the enhanced swim curriculum had substantial effects on three of the four measures.

Research Question 2

This research question was concerned with whether students perceived differences in the effectiveness of three types of models they observed during the new instructional unit. The three types of models were video, teacher, and student models. A repeated measures ANOVA was conducted to evaluate the data for Research Question 2. Results showed the perceptions of the effectiveness of models were significantly different, $F(2, 382) = 36.97, p < .001$ with $\eta^2 = .162$, which is a large effect size for a within-subject design. Moreover, posthoc tests showed there were differences between the perceived effectiveness of peer models as compared to video and teacher models, whereas the video and teacher models were viewed as being equally effective. See Table 4 for the means and standard deviations.

Table 4

Means and Standard Deviations for the Effectiveness of Three Types of Models*

Model Type	<i>M</i>	<i>SD</i>
Video	4.73	1.22
Teacher	4.84	1.11
Student	4.14	1.35

Research Question 3

This research question was concerned with whether the new swim curriculum increased students' swimming capabilities as rated in a performance assessment. A repeated measures ANOVA was conducted to evaluate the data for Research Question 3. Results showed students' swimming capabilities were significantly different between the pre- and post-test assessments, $F(1, 191) = 141.07, p < .001$ with $\eta^2 = .425$, which is a large effect size for a within-subject design. See Table 5 for the means and standard deviations.

Table 5

Means and Standard Deviations for the Students' Swimming Capabilities

Swimming Ability	<i>M</i>	<i>SD</i>
Pre-Test	3.27	1.08
Post-Test	4.07	1.01

In addition, an individual analysis of increases in students' swimming capabilities was conducted by examining a transition matrix for all the students. In a transition matrix, students' pre- and post-test swim levels are placed into a table format, which can be inspected to determine whether individuals progressed to higher levels from pre- to post-test assessment, remained at the same level, or regressed to a lower level. These transition matrix data are presented in Figure 2. See Figure 2 for the details.

		Post-test Level					
		1	2	3	4	5	6
Pre-test Level	1	1	4	1	0	0	0
	2	0	3	15	12	2	0
	3	0	1	22	50	14	3
	4	0	0	5	14	19	5
	5	0	0	1	2	5	2
	6	0	0	0	3	0	8

Figure 2. Transition matrix data showing students by pre- and post-test swimming level (n=192).

Individuals on the diagonal in the matrix represent (in bold) those who remained at the same level. In Figure 2, 53 students remained at the same level. Those above the diagonal progressed one or more levels from the pre- to the post-test assessment. From the table, 90 students moved up one level from pre- to post-test assessment. By comparison, 32 students moved up two levels and 5 moved up three levels. Finally, a small group of 12 individuals who appear below the diagonal in the transition matrix showed they regressed to lower levels at the post-test assessment as compared to their pre-test performance.

Qualitative Results: Student Focus Groups and Researcher Journal

The qualitative data analysis began with focus group interviews. In order to analyze the focus group interviews, I chose to use grounded theory. Grounded theory is defined by Glaser and Strauss (1967) as the discovery of theory from data that is systematically obtained and analyzed. I started the process by transcribing focus group

interviews. The two student focus groups were comprised of a student from each of the six levels based on their swimming ability during the pre-test. The two focus group interviews for students were videotaped and audio recorded using a laptop.

The transcriptions were then read several times in their entirety. Open coding using HyperRESEARCH was then used to put the data into categories of information. HyperRESEARCH is a computer program with a function available that enables its users to assign codes to text. During open coding, memos were assigned to aid in analyzing the data and form categories (Corbin & Strauss, 2007). Using HyperRESEARCH, all codes and the text assigned to these codes were printed. The printout was then examined to determine themes which became apparent from those codes and categories. Themes, categories, codes, and the relating research question are presented in Figure 3.

The focus group interviews for students and teachers were member checked. Participants reviewed these findings to determine whether they accurately reflected their opinions. The purpose of this action is to check for accuracy of the findings from each subcategory of students. One teacher from the teacher focus group member checked the results and one student from each subcategory was asked to member check the results (Creswell & Plano Clark, 2010).

Themes	Categories	Codes	Source
1. Students retained mini safety lesson information.	Safety	Mini lesson recall, OUT, Reach Throw Don't Go, Ring Buoy, Shepherd's Crook, Riptides, Underwater Blackout, Identifying a drowning victim, Importance of swim testing	1,2
2. Students perceived that self-efficacy improved regarding water safety.	Self-Efficacy	Self-Efficacy, Confidence	1,2
3. Students valued observational learning techniques and modeled behavior.	Observational Learning	Student Observation Positive, Student Observation Negative, Teacher Observation Positive, Teacher Observation Negative	1,2
4. Students' opinions varied on the video instruction.		Video Positive, Video Negative	1
5. Participants perceived an improvement in their form/ technique and felt more confident.	Swimming Ability	Safety Interactive lessons, Breaststroke, Backstroke, Freestyle, Form, Technique	1,2
6. Students expressed challenges such as time and eighth grade students	Challenges	Time, Eighth Graders	1,2

Figure 3. Student focus group themes (n = 12). Source 1 was the focus group interview and source 2 was the researcher journal.

Data on students' perceptions of the enhanced curriculum was collected from the student focus groups and notations from the researcher journal. After the initial coding of data described earlier, I organized codes into categories and constructed themes from the data patterns. The following analysis presents the theme, categories, and examples from the student focus groups and notations from the research journal.

Theme 1: Students Retained Mini Safety Lesson Information

A goal of the enhanced curriculum was to incorporate safety mini lessons in each class to ensure that students would gain knowledge of water safety. During the student focus groups, 83% (n = 10) of students recalled and discussed seven of the ten mini safety lesson topics.

Safety. Presented here are the seven safety topics discussed with examples:

1. Signs of a struggling swimmer. Students were taught how to identify the three signs of a water victim. Teachers demonstrated in the water what an active, passive, and distressed swimmer looks like in the water. One student asked,

How can you tell the difference between an active drowning victim and distressed swimmer? (student focus group, September 25, 2013)

Another student added,

You taught us how to use the equipment if someone's drowning or how to determine if they're drowning. The signs of drowning, I guess. (student focus group, October 2, 2013)

One student discussed how he recalled the identification of a struggling swimmer:

I can't really explain it, but I can identify them 'cause it's what you guys taught of the—what do you call it? "The signs of a struggling swimmer." Yeah, I could, but sometimes it's hard to tell the difference where they're just trying to float on water on purpose or trying to hold their breath underwater on purpose. Between that and when they're actually in trouble. (student focus group, October 2, 2013)

Researcher journal observation. I noted that students seemed to be intensely engaged, watching the demonstrations and not talking.

2. Shepherd's crook. During this lesson, teachers and students demonstrated how to use a Shepherd's Crook. The Shepherd's Crook is a long pole with a hook at its

end used to reach out to a struggling swimmer. According to one student, “Knowing how to use the shepherd’s crook was helpful.” Another student added, “That helped a lot because the reach, it was like, with the long thing” (student focus group, October 2, 2013).

Researcher journal observation. Students enjoyed “saving” another student when demonstrating the Shepherd’s Crook.

3. Backyard pool safety. Students were shown a flip chart about Backyard Pool Safety. The focus of the presentation was on how to keep small children safe and out of the pool by utilizing the Over, Under, Through (OUT) method, (Phoenix Children’s Hospital, 2013). One student recalled being impressed, “when we did the thing about the acronym OUT, like, when how people can get into the pool.” The student was recalling ways small children can traverse a barrier to gain access to a pool.

Researcher journal observation. Students seemed engaged and looked to be in disbelief when listening to stories of tragic swimming accidents during the backyard pool safety presentation. Researcher was impressed that a student remembered the word, “acronym.”

4. Reach or throw don’t go. This lesson involved students and teachers demonstration of assisting a distressed swimmer by using objects (towel, water noodle, etc.) that may be located adjacent to a pool instead of entering the water (ARC, 2004). During the focus group interviews, students commented on the importance of using an object instead of entering the water. Student comments included (personal communication, October 2, 2013):

We learned that if they're close to the side, don't really try to jump in and help them just in case they pull you down. Then you can't get back up. You could, but you couldn't save them when you had the chance to save them by using a towel or a tool to save them.

Yeah, just like know that you can grab really anything and reach out there and have them grab onto it. You can pull on it, and it will bring them up above water so they can take a good breath, and then pull just the rest of the way. Don't go in, but just use anything you can.

When we learned about the Reach, Throw, but Don't Go, that helped a lot because the reach, it was like with the long thing.

The students here are describing how they can save others by using the information they learned from the "Reach or Throw Don't Go" mini safety lesson.

Researcher journal observation. I overheard a student comment that he didn't know that a towel could be used to save someone.

5. Ring buoy. Teachers and students demonstrated how to correctly throw a ring buoy. Multiple students recalled this mini safety lesson. According to one student, "Yeah, and then the throw would be for the ring buoy. Then, to not go, you could get, you could be the one end up the one injured because they could drown you or something" (Personal communication, October 2, 2013). The statement describes the students awareness of safety concerns affiliated with entering the water.

Researcher journal observation. One student commented, "I always wondered how to use that thing" (personal communication, September 21, 2013). I overheard a student say this after another student successfully demonstrated the ring buoy toss.

6. Rip currents. This mini safety lesson involved an explanation of what a rip current is. Students then created a rip current in the water and had to swim out of it. Some students commented on how this mini safety lesson was important to them. For example,

one student discussed a riptide mini lesson as a positive experience and gained knowledge that can be used in the future. “I think the riptide one because I go to the beach a lot with my grandparents. When I’m out there, the lifeguards will tell me to stay close. Now I know if I do get stuck, I know what to do” (student focus group, October 2, 2013). This also supports that the student’s perception of water safety was increased. Similarly, another student reported that the riptide mini lesson provided information that further supported the theme explaining that new information presented was memorable. “Also, with the riptide one, how you need to identify if you are in one of them, if you’re in a riptide. Look for if it’s foamy, if it’s discolored, and why it’s caused” (student focus group, October 2, 2013). This student was able to identify what a rip current looks like.

Researcher journal observation. The students recalling intimate knowledge and reporting it back during the focus group shows that retention was presented, although reflections on memorable experiences differ.

7. Underwater blackout. Students were read a story and given an explanation regarding underwater blackout. The story depicted a competitive swimmer who drowned while practicing for a competition. One student explains how this story impacted him:

Probably the one about the kid that he learned how to swim when he was four and he had underwater blackout. I didn’t know that it could happen like that. You could be one of the best swimmers and you could, just like that, just drown.
(student focus group, October 2, 2013)

The students’ conversations demonstrated an understanding of the water safety mini lessons. I was impressed by how they were able to recall the information and give a description of the safety lessons presented. Their recall of the mini safety lessons seemed to lead to more confidence around water.

Theme 2: Students Perceived That Self-Efficacy Improved Regarding Water Safety

Feedback from the student focus group interviews indicated that they gained confidence specifically due to the water safety lessons. When asked, “Has the swim unit made you feel safer around water?” All participants 100% (n = 12) indicated that they felt more confident regarding water safety. Several students expressed increased confidence being around water following the enhanced swim curriculum. One student reported, “Before I started swimming, I was scared. I was like, ‘What if this happens or if that happens?’ Now I feel more comfortable in the water.” Additionally, other students’ reflections related increased perceived confidence, as well as perceived ability in swim performance and water safety knowledge.

It makes me comfortable in the water. I’ve really been comfortable in the water since I’ve been going to the pool. What I really take from this is I can transfer this swim unit, basically how to be safe around water and beaches, to my siblings, like my brother. He took the swim unit here before. He really doesn’t like swimming; but sometimes if he does go swimming, I can teach him a few things or help him out with a couple of things because he took it a while ago. (student focus group, October 2, 2013)

Increased self-efficacy continues to be described by other students exposed to the enhanced swim curriculum. The student’s response below describes how the lessons have been influential on responding in an emergency situation:

I feel more confident because if something happens, I feel more prepared for how to deal with it and how to fix the situation, make it more safe or more—I don’t know how to describe it but less worried that something bad is gonna happen and, if it does, to be prepared for it. (student focus group, October 2, 2013)

These focus group discussions align with Bandura’s theory that “Self-efficacy is one’s judgment of one’s ability to successfully perform a behavior” (Bandura, 1986). The

enhanced curriculum has resulted in students believing they would be more able to react and perform in scenarios involving water safety. One student said,

Yeah, 'cause like I said before, my brother, he's not the best swimmer. He can drown maybe easily. I've not seen it happen before, but it could happen, and I want to—the swim unit really taught me a lot of things, four or five things, on how to help someone who is drowning or someone who is in trouble. I feel like I can actually do something. (student focus group, October 2, 2013)

This student response demonstrates that the swim unit has been a source of information that will carry on throughout the students' lifetimes. It mentions increased awareness, understanding of causes of drowning, and being able to react in emergency situation, all of which were objectives of the enhanced curriculum.

The student focus group reveals that the exposure to situational knowledge will increase the likelihood of performing a task successfully later on. The students quoted previously reinforce that perception of successful performance increases engagement in the activity. The enhanced curriculum reinforces their perception of ability through knowledge resulting in improved self-efficacy.

Researcher journal observation. Students discussed how they were talking with their siblings about water safety and felt comfortable teaching them what they learned in class.

Theme 3: Students Valued Observational Learning Techniques and Modeled Behavior

Participants indicated that watching demonstrations helped them in the learning process. When asked to reflect on memorable experiences pertaining to observational learning, several students noted their proclivity for the demonstrations. The positive reflections of in-person demonstrations reflect Bandura's (1986) idea that modeled

behavior brings success through vicarious experiences, including watching competent adults or similar age peers. Only one student indicated that peer demonstrations were effective. One student reflected a positive experience from observing peers, “When you would call someone out, and they’re doing good, and demonstrate it for us” (student focus group, October 2, 2013). This statement aligns with additional participant responses in which, class modeling (teacher and peer) was said to be preferred over video models, as they were able to provide the more realistic vicarious experiences for the students. A student reports, “I liked the videos, but I also liked watching people do it so I wouldn’t actually be without all of it, how it should look and be real life instead of on a screen” (student focus group, October 2, 2013). The in-person experience was reported more positively because students better associated with real life experience. In addition to peer modeling being successful, 50% (n = 6) of students mentioned teachers as being effective for learning. According to a participant,

For the videos, I’d rather see it in person than just look at it on TV. That was my way of learning it and seeing you and Mr. T do it. It was easier to understand it and know how to do it when you’re taking your turn. (student focus group 2, 2013)

This was supported by another who stated, “I liked when somebody actually does it in person so you can see it really happen” (student focus group, October 2, 2013). The participant responses support the theme that student and teacher demonstrations are preferred. Another student reflection also indicated the student had positive experiences with modeling throughout class rather than in video. “Teacher demonstration actually really helped ‘cause maybe you can demonstrate the stroke and then, Mr. T can do it underwater” (student focus group, October 2, 2013). The focus group results express that

viewing peers as well as teacher models was a positive experience for student participants.

Theme 4: Students' Opinions Varied on the Video Instruction

When asked “What helped you learn proper swimming technique best, the videos, teacher demonstrations or other students’ demonstrations?” six of the twelve participants indicated that they would rather see a demonstration in person than watch a video, while half of the participants indicated that they valued the video because of the different angles it provided. The following quotes indicate students’ opinions that the video demonstrations were not favorable. “Okay, one thing I don’t think helped me was the videos ‘cause I think people doing it in person helps” (student focus group, October 2, 2013). Another student remark shows similar feelings towards the video.

I didn’t really like the videos ‘cause they weren’t, like I could actually see what was really going on, not just watching a screen. (student focus group, October 2, 2013)

While these students acknowledge their ambivalence toward the video demonstrations, another participant claims, “I think that the video demonstrations helped me the most because they actually had skilled people. Really good really skilled people that were doing it” (student focus group, October 2, 2013). This statement was backed by the reply of another participant who stated, “I think that videos helped me the most. It slowed it down step by step; it showed it on every angle so we could see the body position” (student focus group, October 2, 2013). The information gathered from focus group remarks support evidence in theme three that students valued teacher, peer, and video demonstrations overall but opinions varied on which observational learning technique was most effective.

Researcher journal observation. Students discussed the helpfulness of watching teachers perform swim strokes and seemed to enjoy the examples provided.

Theme 5: Participants Perceived an Improvement in Their Form/Technique and Felt More Confident

Participants perceived an improvement in their form/technique and indicated more confidence in their swimming capabilities. During the focus group interviews, students were asked if they felt their swimming ability had improved after the curriculum and if there were specific strokes where they became better. Of the students who participated in the focus groups, 92% (n = 11) reported that they perceived an improvement in their swimming ability, specifically 33% (n = 4) reported an improvement in backstroke and 33% (n = 4) an improvement in breaststroke. According to one student,

The breaststroke, I didn't hardly know anything. I don't know how to explain it, but before I used to always go like this and try to put my fingers out. You're supposed to go like this and have your fingers close together. (Personal communication, October 2, 2013)

This statement was affirmed by an additional participant who said, "It helped me by doing backstrokes 'cause I didn't know how to do a backstroke before that" (Personal communication, October 2, 2013). Responses continued to point toward an increase in stroke knowledge. One student validated the theme by stating, "When I did the backstroke, I didn't do the proper form. I just started putting my hands back and trying to go" (Personal communication, October 2, 2013). This was reinforced by another mention of improvement from a participant who said, "It helped me a lot because I didn't even know any of the strokes by the time I started swimming, so I learned some of them at

least” (Personal communication, October 2, 2013). Another student also mentioned that the swim curriculum helped him learn not only better technique but additional strokes as well. “I liked that we learned different techniques and stuff, like all these different strokes, and made ‘em better” (Personal communication, October 2, 2013). Continuing to support the theme of perceived improvement in their form/technique, one participant remarked, “Learning how to do the strokes properly was pretty helpful, and that’s one thing I liked about it. I learned how to have better form” (student focus group, October 2, 2013).

Theme 6: Students Expressed Challenges Such as Time and Eighth Grade Students

When asked what challenges were experienced during the swim unit, students reported that their main obstacles were time and the participation of eighth grade students. Students were asked to give examples of their encounters and one student reported,

One thing I don’t like is just ‘cause all these eighth graders are with us, just don’t—a lot of ‘em don’t just follow along. It’d be cool if you were separated. Like seventh graders are swimming for this period of time, and you guys switch after a couple weeks. (student focus group, October 2, 2013)

Fifty percent (n = 6) of students reported eight graders as a challenge. A participant reiterated this by stating,

Me and Kyle were in the same line, and we had an eighth grader with us who didn’t do anything. He would just mess around the whole time. He was scared for his hair, and it was just really annoying. (student focus group, October 2, 2013)

Affirming the previous statements, it was reported that, “The eighth graders that you guys have, they would always just mess around instead of watch the videos” (Personal

communication, October 2, 2013). Others reported challenges with the amount of time during the swim unit, and a student suggested,

I think a longer period of time because we change out and we get to the pool and we swim, and it feels like we're only there for so little time before we have to leave. It feels like we're walking around and doing other things more than we're swimming. It probably isn't, but it feels like that. (Personal communication, October 2, 2013)

Supporting the concern for time and more specifically discussing activity time within lessons another student reported a challenge was the amount of people in each line.

My line only had three people. Then, I saw other people that only got to go once the whole period because there was five people in it. Then, I think it should be fair for everyone so that it divides up the lines. (student focus group, October 2, 2013)

The responses to the question of what challenges came up during the swim curriculum supported the theme that time constraints and distractions by eighth grade students were a concern.

Qualitative Results: Teacher Focus Group

One of the challenges observed was the lack of lanes available in the shallow water for students with less swim ability. Also, time was an obstacle; too much time was taken changing and walking to the pool. Mini safety lessons also cut into activity/instruction time.

In order to gather information on perceptions of the enhanced curriculum from teachers, focus groups were conducted. The focus groups consisted of all the physical education teachers at GFRJHS. Structured interview questions were presented during the focus group interview. As mentioned earlier in the chapter, after the data was coded, codes were grouped into categories and themes were constructed. Presented in Figure 4

are the codes, categories, and themes followed by the themes being presented with quotes from teachers that support those themes.

Themes	Categories	Codes
1. Teachers indicated that the mini safety lesson positively impacted students' knowledge of water safety	Safety	Reach Throw Don't Go, Ring Buoy, Shepherd's Crook, Riptides, Mini Lessons
2. Teachers inferred that students' confidence with regard to water safety increased after the swim curriculum	Self-Efficacy	Confidence, positive efficacy
3. Teachers indicated that peer observations and the swimming videos were advantageous	Observational Learning	Student Observation Positive, Student Observation Negative, Teacher Observation Positive, Teacher Observation Negative, Video Positive, Video Negative
4. Student learning would increase with added practice time	Practice time	Time
5. Teachers' suggest that the way the CoP communicates and shares information is effective	Communication	Team, Assisting one another, Brainstorming, Sharing Information

Figure 4. Teacher focus group data (n = 5).

Theme 1: Teachers Indicated That the Mini Safety Lesson Positively Impacted Students' Knowledge of Water Safety

Through conducting teacher focus groups it was learned that 100% (n = 6) agreed that the mini safety lessons taught had a positive impact on students. One teacher reported,

I had quite a few seventh graders that actually took the information home to their families and talked about water safety and things with the pool and make sure you do these things home, so they actually carried it past just the pool deck and actually applied it. That was really cool to hear. (teacher focus group, October 30, 2013)

This was supported by another teacher participant who discussed the importance of bringing students new information supporting the theme by increasing their knowledge. It was stated,

There were a lot of things in there that they probably had never thought about before as far as even like the rip currents and things like that. There's just a lot of stuff that they don't think about every day, so I think it enlightened them too. (teacher focus group, October 30, 2013)

Another teacher added, "I thought the rip current was really good, I didn't even know that" (teacher focus group, October 30, 2013). These replies provide examples of ways mini lessons can have a positive impact on student through increasing understanding.

Providing new information having a positive impact is again mentioned by a participant, who says,

Well, and I don't think anyone knows that you could just go get that stuff. I think they think it's for lifeguards only to use [This was referring to the ring buoy and shepherds crook lessons] (teacher focus group, October 30, 2013).

Another teacher believed that the mini lessons were impactful because,

...kids don't really think through rescues, so they never even think about like I shouldn't go in if I don't have any flotation device, so us going over reach, throw, don't go or anything like that, because they can drown themselves. (teacher focus group, October 30, 2013)

All of the focus group responses provided by the teachers regarding safety mini lessons pointed to the fact that they were beneficial and impactful for students supporting the theme.

Theme 2: Teachers Inferred That Students' Confidence Towards Safety Increased After the Swim Curriculum

Teachers were asked whether they felt the curriculum had made the students more confident in their swimming ability and safety knowledge. All teachers (n = 4) reported that students self-efficacy regarding safety improved. One teacher discussed how increased knowledge improved confidence by saying,

I think knowing what to do correctly, where to put their head in the water, or what the rhythm should be for breaststroke, all that should make them more confident because they're learning that, and they know what they should be doing. (teacher focus group, October 30, 2013)

The participant mentioned that the swim curriculum improving form can in turn increase confidence for students because they now are comfortable with performing the task.

Having a better understanding leading to increased confidence is supported by another who claims,

...because when the kids talk about it or when the kids mention things or feel good about themselves when they know the answer for our review later on, you can tell that they're more confident in what they know. (teacher focus group October 30, 2013)

Continuing with the notion that the student responses show more awareness and the theme that students' confidence towards water safety has increased, one teacher discussed reviewing with students and said, "They offered a lot of feedback to questions that we had, so that shows confidence" (teacher focus group, October 30, 2013).

Theme 3: Teachers Indicated That Peer Observations and the Swimming Videos Were Advantageous to Student Learning

During focus groups, when asked whether observational learning techniques such as peer modeling and video demonstrations were effective, teachers reported favorably.

One declares, “I think the peer demonstrations because they—I don’t know. When they look at a teacher, I don’t think they pay attention as much as when it’s peers doing it” (teacher focus group, October 30, 2013). Supporting that peer modeling and teaching are positive influencers on students, it was said,

I think I might piggyback on her comment on the peer teaching because I know when I teach a lesson I feel more comfortable with soccer. I never played soccer, but I feel more confident in my skills in soccer than before because I taught how to teach it. (teacher focus group, October 30, 2013)

As for the video demonstrations, teachers were favorable to the impact they had on student learning. One reported, “The video for the breast stroke showed them actually how to do the strokes the right way on the different videos that we showed so that they could practice correctly” (teacher focus group, October 30, 2013). Another responder supported this statement and delved a little further by communicating,

I would probably agree with the video also because of the same reasons. I don’t know that they pay a whole lot of attention to us when we’re in the water, so I think the video when they broke it down step by step it was really good. (teacher focus group, October 30, 2013)

Supporting the idea that the students may be more engaged with the video demonstrations rather than teacher demonstrations, a responder noted,

I agree: the video. It seemed to do a better job at showing everything, but just using the peer demos as a reinforcer of the video ‘cause they could care less what we do in the water. We could tell them all day long, but reinforcing would be good. (teacher focus group, October 30, 2013)

Others felt the videos were effective because of the perspectives they could offer students on stroke techniques. A teacher reported, “They might not have enjoyed them, but it certainly gave them a different viewpoint as to all the mechanics of what they should be

doing in the water” (teacher focus group, October 30, 2013). This was further reinforced by another teacher who said,

I think the video, only because they were actually able to see above and underneath the water of how the entire stroke was going. Whereas, when they’re just looking, they might not be paying attention as much or they can’t really see exactly how that kick’s going ‘cause you have splashing. I like the dissected of the above and below the water. (teacher focus group, October 30, 2013)

Whether it is through associating more with peer models, or viewing and retaining proper stroke technique, teachers believe that these observational learning techniques were effective. All of the above statements from teachers support the theme that peer observations and the swimming videos were advantageous to student learning in different ways.

Theme 4: Students’ Learning Would Increase With Added Practice Time

During focus groups, teachers were asked to discuss challenges they encountered during the swim unit. Time was reported as a constraint that, if fixed, could benefit student learning. One teacher discussed how increased time could be beneficial, “Any time you have a bunch of practice time, which we probably had more practice time than normal, in normal units, they’re gonna improve” (teacher focus group, October 30, 2013). Another teacher continued to speak about the importance of increased time by saying, “I know it’s all so important, but I just feel like that the more time that they have, that they’re gonna just get better and better” (teacher focus group, October 30, 2013). Finally, a teacher provided a suggestion that supported the theme, “I would add more practice time for strokes” (teacher focus group, October 30, 2013). All of these statements reinforce the theme that student learning would increase with added practice time.

Theme 5: Teachers' Suggest That the Way the CoP Communicates and Shares Information Is Effective

When asked the question of whether or not the department has effective communication, teachers responded positively. One teacher discussed the success of the department's relationship and how it supports communication saying,

Well, even within departments—other departments at our school, I don't think any of those departments have quite the same relationship, because everything's so dependent on us being flexible and being able to work together and—I know from [inaudible 06:37] that we work well as a department with meetings, but then you're on your own when it comes to what you're doing every single day. Here, we have to constantly work together and work well together, and communicate well together, because our departments are so closely tied to one another. (teacher focus group, October 30, 2013)

Another participant supports that communication is effective because of weekly meetings and the opportunity to share successes and areas for improvements during that time.

I think one of the best ways that we shared it was through our weekly meetings. We were able to say, by us going first, "This is working. This is not working. Maybe we need to adjust here." Even when we were setting up or preparing lessons, I think our prior knowledge helped us, from the things we've done in the past; just helped us as far as being more efficient with our teaching. (teacher focus group, October 30, 2013)

Once again, it is reported that communication works within the department because of working together and supporting one another stating, "It helps to have other people out there, so if you forget to say something, they're there to cover that, because you say it so many times that you don't want to forget something, especially during swimming" (teacher focus group, October 30, 2013). Another participant mentioned how a positive working relationship helps with effective communication responding, "I think we get along personally, so our ideas come together well" (teacher focus group, October 30,

2013). Again mentioning the positive working relationship and how it helps with communication a teacher said,

I think the communication with us as far as, “Do we need that extra person for zone coverage” or, “Are we staying in these particular areas of the pool?” That type of thing was well communicated this year. (teacher focus group, October 30, 2013)

The theme continued to be supported as teachers discussed bridging the gap through the separation of boys and girls in physical education through dissemination of information among the group. One participant said, “I feel like we do actually work well, compared to other situations. I feel like our communication between the boys’ and the girls’ side is really good compared to stories I’ve heard” (teacher focus group, October 30, 2013). Another teacher verifies this coordination:

I mean, having both boys and girls, what worked for us; like, you would ask me, “Hey, what worked as the boys are doing it?” It wasn’t like we had to stop and wait, and you ask. You know what I mean? Like, I was there, giving you automatic feedback at what worked and what didn’t as you were teaching, but the girls went first. (teacher focus group, October 30, 2013)

The teacher focus group responses support the theme that there is effective communication and staff shares information well throughout the department.

The examples included from focus group interviews represent typical responses from students as well as teachers. The information gathered supported the themes that were derived through the coding process. Students reported that water safety mini lessons were beneficial and teachers believed that students retained the information provided. Students and teachers both communicated that self-efficacy, as well as ability improved throughout the unit. Although opinions on observational learning techniques

varied, overall they were reported as advantageous. The themes discussed in Chapter 4 will be used to generate assertions in Chapter 5.

CHAPTER 5

DISCUSSION

Chapter 4 presented the quantitative and qualitative analysis results related to the objective of the study. In this chapter, I will complete the investigation of the effectiveness of the new swim curriculum through triangulating the qualitative data results obtained through focus groups and journaling with the quantitative results derived from pre-survey and post-survey statistics and discuss the relationship with the theoretical framework and existing literature. I will provide evidence to support my assertions that developed through data analysis to answer the five research questions previously stated. Figure 5 shows the assertions, the research question each supports, and the data sources used for triangulation.

Assertions	Research Question	Data Triangulation
Assertion 1: The new curriculum increased students' perception of their swimming skills.	1c	Pre/Post survey, student focus groups, academic literature
Assertion 2: The new curriculum enhanced students' knowledge of water safety and their self-efficacy for water safety.	1b, 1d	Pre/Post survey, student focus groups, academic literature, researcher journal
Assertion 3: Students identified teacher demonstrations, the swimming videos and student demonstrations as effective models for learning.	2	Pre/Post survey, student focus groups, academic literature
Assertion 4: The majority of students' swimming capabilities increased after completing the new curriculum.	3	Pre/Post swim test, pre/post survey, student focus groups, academic literature
Assertion 5: Teachers saw working together as crucial in order to implement the new curriculum.	4	Teacher focus group, academic literature
Assertion 6: Time is a challenge when implementing the new curriculum.	5	Student focus group, teacher focus group

Figure 5. Assertions and triangulation.

Research Question 1

How, and to what extent, does the new swim curriculum increase students' (a) self-efficacy for swimming, (b) self-efficacy for water safety, (c) perception of swim skills, and (d) perception of water safety skills?

Quantitative results of the pre-test and post-test survey showed no significant difference regarding students' self-efficacy for swimming, although the means for perception of swim skills, perception of water safety, and self-efficacy for water safety

were significant, all with large effect sizes. The qualitative results taken from student focus groups, a teacher focus group, and the researcher journal indicated that students increased in the four constructs of Research Question 1. The following two assertions address Research Question 1.

Assertion 1: The New Curriculum Increased Students' Perception of Their Swimming Skills

The students reported a perceived improvement in swimming capabilities. The average perception of swim skills increased from 4.72 to 5.29 for students. This however, cannot be interpreted as an improvement in their self-efficacy for swimming. Other researchers studying this topic found that, "People's perception that they can perform a behavior successfully increases the likelihood that they will engage in the behavior," (Marcus et al., 2003, p. 191). This is important as the increased perception of ability could increase the likelihood that swimming will be used as a lifetime activity. I will not be making an assertion that students' self-efficacy for swimming increased due to the lack of convergence of the data sources. Although the pre-test and post-test did not show significance for self-efficacy, the qualitative data below supports that the perception of swimming skills increased as well as self-efficacy.

The qualitative data supports the increased perception in swimming skills. Students reported that they improved during the swim curriculum. One student stated, "Learning how to do the strokes properly was pretty helpful, and that's one thing I liked about it. I learned how to have better form" (student focus group, October 2, 2013). Students mentioned that their strokes improved, they felt they understood technique better, and that they felt more comfortable in the water. I observed students as being more

eager to participate as the curriculum went on. This can be tied to an increase in self - efficacy since self-efficacy can be defined as, “an individual’s conviction that he or she can successfully execute the behaviors necessary to achieve a desired outcome,” (McCullagh & Weiss, 2002, p. 132). One teacher discussed how learning skills should increase student’ confidence,

I think knowing what to do correctly, where to put their head in the water, or what the rhythm should be for breaststroke, all that should make them more confident because they’re learning that, and they know what they should be doing. (teacher focus group, October 30, 2013)

The data collected through focus groups and the researcher journal provide evidence that the students believed they could successfully perform the behaviors taught. The quantitative and qualitative data together support that overall the new curriculum increased students perception of swim skills. According to Feltz et al. (2008), “in instructional situations, one must develop not only a person’s physical skills (behavioral change) but also the person’s confidence in the ability to perform the skills (cognitive change)” (p. 184). The new curriculum incorporating both of these aspects led to increased perception of skills as it built skills along with confidence of student participants. The discrepancy between the quantitative and qualitative data for self-efficacy needs further investigation.

Assertion 2: The New Curriculum Enhanced Students’ Knowledge of Water Safety and Their Self-Efficacy for Water Safety

Quantitative data gathered through pre-testing and post-testing students showed an increase in perception of water safety skills with the average increasing from 4.72 to 5.29. According to Marcus et al (2002), “Self- efficacy is one’s judgment of one’s ability

to successfully perform a behavior.” Therefore, increased perception can be related to self-efficacy of students. The students retained water safety knowledge and discussed being more confident about water safety.

Qualitative data gathered through student and teacher focus groups as well as researcher journal support the quantitative data that suggests students increased their knowledge of water safety. Students were able to recite back information learned during mini safety lessons during focus group meetings supporting that the knowledge was retained. Students reported feeling more comfortable around the water because of the safety knowledge they obtained. Asher et al. (1995) make the point that “children with more training would act more competently in simulated high risk situations than children with less training” (p. 228). The new curriculum prepared students with pertinent information on reacting in emergency situations and student responses during the focus group reflected the improvement. Participants indicated that they would feel more prepared in an emergency situation and their perception of being capable of assisting improved. All participants 100% (n = 12) indicated that they felt more confident regarding water safety. All teachers (n = 4) reported that students self-efficacy regarding water safety improved based on what they observed throughout the curriculum. The enhanced curriculum taught water safety dangers and drowning risks in order to improve student knowledge of water safety. The findings by Asher et al. (1995) reinforce my findings stating, “Instruction in swimming and water safety significantly improved swimming ability. It also improved measures in water safety skills that attempted to stimulate drowning risk” (p. 231). The research shows that teaching both swimming skills and teaching water safety can improve swimming ability overall.

Research Question 2

How, and to what extent, do students value different observational learning techniques presented during the swim unit?

Quantitative data were collected using a 6-point Likert scale during the post survey and qualitative data was collected through the student focus groups and teacher focus group. The following assertion is being made to help answer Research Question 2.

Assertion 3: Students Identified Teacher Demonstrations, the Swimming Videos, and Student Demonstrations as Effective Models for Learning

According to Bandura, (1977), “observers can acquire cognitive skills and new patterns of behavior by observing the performance of others” (p. 49). There were differences between the perceived effectiveness of peer models as compared to video and teacher model, whereas the video and teacher models were viewed as being equally effective. The means for all models were above 4 (on a 6-point scale), which indicates students saw value in all observational learning techniques.

Qualitative results from student focus groups, teacher focus groups, and researcher journal showed that students valued observational learning techniques overall. Analysis of student focus groups presented themes and provided data that could be interpreted. The results show that 50% (n = 6) of students reported positive experience with teacher demonstrations, and 50% (n = 6) of students had a positive experience with the videos. A typical student response regarding the demonstrations indicated that they “...liked the Videos, but I also liked watching people do it so I wouldn’t actually be without all of it, how it should look and be real life instead of on a screen” (student focus group, October 2, 2013). The results triangulate the quantitative data as it was interpreted

that students did not identify with peer models as effectively as teachers and videos with only one student mentioning the effectiveness of the peer models. This aligns with Bandura's (1986) theory that, "given the choice, people are more likely to select models that are proficient at practicing good outcomes" (p. 55). Analysis of teacher focus groups again supports that teacher and video modeling was effective with all teachers (n = 4) agreeing that videos supported student learning by showing proper technique, although three of the four teachers did not see teacher demonstrations as effective as opposed to the student demonstrations and videos. Teachers felt as though students did not pay attention as much when a teacher was demonstrating, disconfirming students' perception that saw teacher models as being most effective. The information gathered from the focus group does align with social cognitive theory in that they did learn through modeled behaviors. Students developed new cognitive skills and strengthened behaviors previously learned through observing others perform effectively. The results are supported by relevant literature as the results of Bandura's study in 1977 showed that the best performance came from those who viewed a skilled teacher when analyzing how reinforcement can impact the effectiveness of models. Teachers were able to provide added positive reinforcement to students practicing their skills where student models could not. The positive reinforcement associates with reward over punishment, which increases motivation. The research depicts how positive reinforcement by teachers may have been more impactful for students than watching their peers who could provide limited feedback or rewards.

Research Question 3

To what extent does the new swim curriculum increase students' swimming capabilities?

The quantitative and qualitative results support the assertion that the majority of students' swimming capabilities increased after completing the new curriculum.

Assertion 4 helps to answer Research Question 3.

Assertion 4: The Majority of Students' Swimming Capabilities Increased After Completing the New Curriculum

Quantitative data results were taken from pre-test and post-test results. The data shows that there was a significant increase in capabilities of students with the average jumping from 3.27 to 4.07. Students were given a performance number (1-6) in the initial assessment and again graded in the post-test. A total of 90 students moved up one level from pre-test to post-test assessment. By comparison, 32 students moved up two levels, and 5 moved up three levels by post assessment. A small group (n = 12) of students regressed a level. It must be noted that the mean of students who did improve their capabilities included level six swimmers, and there was no room for improvement from those students.

The qualitative results from the student focus groups indicated that 92% (n = 11) perceived that they improved their swimming capabilities. Students reported feelings of increased ability in the water specifically in techniques and stroke performance. Students reported increased proficiency in backstroke, breaststroke, and freestyle. Data gathered from focus groups show that 33% (n = 4) reported an improvement in backstroke and 33% (n = 4) reported an improvement in breaststroke. According to the data, the

observational learning techniques mentioned previously helped students increase proficiency in the water. “People learn through the consequences of their own behavior and by the observation of others” (Bandura, 1977, p. 68). Observing models perform the behavior in the correct manner transmitted the information to students encouraging them to modify previously learned behaviors or obtain completely new information.

The quantitative and qualitative data complement each other in showing that students increased their swim capabilities throughout the enhanced curriculum. Taking the data from the previous assertion, the increase may be associated with observational learning techniques used throughout the swim unit. As Bandura (1986) states, “...modeling influences teach competent skills and provide rules for organizing them in into new structures of behavior” (p. 49). The modeled behavior provided in the new curriculum can be associated with increased swimming capabilities of students as it provided a set of rules for stroke performance and appropriate behaviors in the water.

Research Question 4

How does working as a Community of Practice influence implementing an enhanced swim curriculum?

The teachers in this study reported the importance of working together during the swim unit. Assertion 5 will help to answer Research Question 4.

Assertion 5: Teachers Saw Working Together as Crucial in Order to Implement the New Curriculum

A Community of Practice is a group “who share an overall view of the domain in which they practice and have a sense of belonging and mutual commitment to this” (Wenger et al, 2002, p. 43). Data gathered through teacher focus groups and researcher

journal supports that working as a community of practice is effective in implementing the new curriculum. Teachers reported that they believed the department worked as a Community of Practice with all stakeholders having mutual engagement. Wenger (1999) notes that, “members [of a CoP] are bound together by their collectively developed understanding of what their community is about and they hold each other accountable to this sense of joint enterprise” (p. 4). The teachers within the department reported feelings of a desire to improve the swim curriculum. They felt that they held each other accountable for their roles in increasing the success of the curriculum. Teachers stated that the communication between the teacher participants was effective throughout the curriculum design and implementation. Teachers reported working together to solve common challenges, providing feedback when things worked well or did not go well, and working together to make the pool as safe as possible. Since the Community of Practice works so closely together, they report the camaraderie of being able to share knowledge through talking with one another between classes or after school. Wenger et al. (2002) report that, “the heart of a community of practice is the web of relationships among community members, and much of the day to day occurs in one-on-one exchanges” (p. 58). The teacher participants reinforced this literature by demonstrating that these informal discussions were extremely important in maintaining collaborative relationships and sharing information. Research shows, “that sharing tacit knowledge requires interaction and informal learning processes such as, storytelling, conversation, coaching, and apprenticeship” (Wenger et al, 2002, p. 9). These are all aspects of communication that the participants report as effective throughout the department. Teachers report that without the communication within the department, the new curriculum implementation

would have been unsuccessful. The data shows that all teachers agree that in order to be effective, working together and sharing knowledge is essential.

Research Question 5

What challenges and improvements do participants report during the enhanced curriculum?

Students reported that eighth grade distractions and lack of time were challenges that they faced during the swim curriculum. Students reported that eighth graders were a distraction during the swim unit, as well as in other areas of their school experience. This may have been due to a behavior management issue. With no data other than one student focus group, I will not make an assertion regarding this challenge. However, the qualitative data from both the students' focus groups and teacher focus group support the following assertion.

Assertion 6: Time Was a Challenge When Implementing the New Curriculum

Qualitative data gathered through focus groups support that time was a major challenge in the new curriculum. Students and teachers both reported that they wished there was additional time for lessons. Both students and teachers agreed that too much time was taken to change clothes and walk to the pool area. Teacher participants believed more practice time would be beneficial to increase ability and technique. Students reported struggles with the amount of people in their swimming lines and not having enough time to practice. Another researcher, Bielec (2007), found that “the most common problem in preparing and conducting swimming lessons is the selection of proper exercises for children who vary much in their swimming skills” (p. 209). Skill levels in different groups may have attributed to the lack of practice time some reported

due to more explanation having to be given to non-swimmers. Students and teachers both agree that more time would be beneficial and help to increase student learning. The junior high school schedule is a challenge when discussing time. The CoP is discussing more effective ways to address this challenge in the future (dress out time and time taking attendance). It would require a systematic change school wide to a different schedule to increase instructional time.

Conclusion

The assertions made are based on the data collected and the triangulation of data sources. Teachers and students were presented with the findings of the focus group interviews to check for accuracy. Both participant groups believed the findings were an accurate representation of the discussions within the interviews. The findings presented indicate that students' swim ability and perception of their swim ability increased after completing the new swim curriculum. Safety knowledge and efficacy towards water safety improved. Students viewed all three observational learning techniques with teacher demonstrations favored, while teachers regarded the video and peer models most effective. Teachers concluded that working as a CoP was instrumental in the implementation of the new curriculum. Both students and teachers reported time as a challenge of the new curriculum.

In this Chapter I have presented six assertions and supporting data that answer my research questions. Chapter 6 will conclude the research with an overall discussion of this action research project.

CHAPTER 6

CONCLUSION

Previous chapters of this study provided analysis of data to interpret how this action research cycle answered the five research questions. This chapter seeks to discuss what I did, what I learned, what I would do differently, and where I see future applications of this study. The final chapter of this dissertation will present a discussion and overall conclusions regarding the enhanced swim curriculum. The first section, “Searching for Answers,” explains how conducting this study has contributed to answering my research questions. The second section, “Implications for Practice,” describes how the research can be of future benefit to educational organizations and what I’ve learned about myself as an educational leader. The final section, “Implications for Research,” illustrates what I would have done differently and presents considerations for future research.

Searching for Answers

The purpose of Cycle 3 (Cycle 1 was determining the CoP; Cycle 2 was piloting of curriculum with the girls’ classes) of this action research was to enhance a swim curriculum through the development of a Community of Practice (CoP) in order to increase students’ swimming capabilities and keep them safe around the water. Four outcomes from this action research project support the purpose:

1. Students’ self-efficacy and perception of water safety skills increased
2. Students’ ability and perception of swimming skills increased
3. Students valued all observational learning techniques
4. Teachers felt that working as a CoP was crucial to the process

Students' Self-Efficacy and Perception of Water Safety Skills Increased

The students were provided with mini water safety lessons on ten occasions throughout the enhanced curriculum. Their ability to recall these lessons indicates that the implementation of the lessons was effective for student learning. Teachers also reported the effectiveness of these mini safety lessons. Perceptions of water safety knowledge increased from pre-test to post-test as students acquired more safety knowledge. The water safety knowledge attained and the students' improved swimming abilities contributed to their increased self-efficacy and perception of water safety.

Students' Ability and Perception of Swimming Skills Increased

The enhanced curriculum improved students' swimming abilities. On average, students increased their swimming ability by one level from pre-test to post-test. The data, however, did not take into consideration that some of the students that started as a level six swimmer (highest level) could not move up. Throughout the implementation of the enhanced swim/safety curriculum, students were more confident in their swimming abilities, as was reported in this action research project.

Students Valued All Observational Learning Techniques

Students were asked to rank the different observational learning techniques (teacher model, peer model, and video) on a 6-point Likert scale. The students were also asked which model type they found most effective during the focus group interviews. The data showed that teacher and peer models were most effective; in addition, the video also helped many students. The research provided an opportunity, in collecting the data, to analyze the extent of how effective this innovation would become. An offshoot of this

study is the positive response of the CoP in deciding to include all observational learning in their teaching.

Teachers Felt That Functioning as a CoP is Crucial to the Process

The teachers reported that they would not teach swimming by themselves, because they felt that working together was the only way to keep students safe around the water. Communication among the teachers and GFRJHS has never been better. This action research project has provided impetus for the teachers to be engaged and looking for innovative ways to teach other parts of curriculum. Meetings with the CoP are now filled with the sharing of new ideas. The CoP is now interested in collecting data on more activities as well. The implementation of this action research project has strengthened the mutual respect the teachers have for one another.

Implications for Practice

The enhanced swim curriculum is of great benefit to our school, and subsequently our district, by providing a data tested curriculum, a focus on water safety, and a curriculum that could minimize liability for schools/districts when delivered appropriately. The implementation of the new curriculum engaged both students and teachers to provide an exciting learning experience that they all want to extend to other PE curricula. This response was an added benefit that I had not anticipated.

The enhanced curriculum followed a mixed methods research design in order to triangulate data to show that the curriculum was effective at a secondary school setting. This study may cause other school districts to re-think their swimming programs. The curriculum was designed using strategies from the ARC, YMCA, and Phoenix Children's Hospital to teach effective swimming lessons. Utilizing this current literature, I was able

to help our CoP to develop this curriculum enhancement. However, in researching the literature, I discovered that there is limited research regarding swim curricula for secondary schools. This enhanced curriculum provides administrators/teachers with a research-based curriculum that improved student learning at one secondary school.

The curriculum could provide educational organizations the opportunity to teach students how to be safe around the water. When students are provided water safety knowledge, they can disseminate that knowledge to family and friends. The community will benefit from the safety knowledge introduced within the enhanced curriculum. Educational organizations have a responsibility to keep their students safe; the safety knowledge they receive can help to accomplish this obligation.

Safety was the primary objective when enhancing the swim curriculum. This research was inspired by a presumed lack of diligence during a drowning in a Phoenix area school district. Districts that teach swimming during PE class need to have a curriculum that minimizes liability. Teachers need to be lifeguard certified and follow guidelines set forth by a nationally recognized lifesaving organization (ARC and YMCA) and local regulations. The enhanced curriculum gives educators a source to use and adapt to fit within their population of students. The curriculum may not be generalizable to all secondary schools, as all schools have students with different needs. However, the guidelines presented in the curriculum are proven to be strong and could be adaptable to many secondary school swimming programs. Perhaps, it is possible that the enhanced curriculum may reduce safety risks for students, teachers, administrators, and school districts. More research is needed in order to determine if the curriculum reduces safety risks.

Although safety was the main objective for the research project, the enhanced curriculum also sought to improve student swim ability. The curriculum was designed based on using Dynamic Physical Education (Darst & Pangrazi, 2009) as a model for quality physical education. The research on physical education indicates how teaching swimming could be very beneficial to students since swimming is a lifetime activity that can be done at any physical ability level and can promote healthy living (Darst & Pangrazi, 2009). The enhanced curriculum was designed to increase stroke capabilities of students through observational learning techniques in order to make students more confident in the water. As mentioned previously, the research project showed improvement in overall student swim capabilities. The combination of teaching students how to be safe around the water as well as making them better swimmers can be an effective model for curriculum that could be adapted in other schools.

Implications for Research

This action research project has benefitted me as an educational leader. I continue to supervise the swim curriculum in-service training for teachers at GFJRHS, certifying them as lifeguards. I find that I have a more safety oriented approach to my training sessions due to the effectiveness of this study. As an educational leader, I see the possibility of providing training to other physical education departments throughout the country.

I have gone through a personal transformation throughout this action research project. Innovation is the lens through which I view my context. I now tend to view situations differently and look at them as opportunities for innovation. I have discovered

that action research provides me the ability to make data driven decisions in order to make those necessary innovations.

Another discovery that I have garnered from this research is the workings of a CoP and my role in the GFJRHS CoP. I was pleased to discover how effective a CoP we were, and how beneficial it was to conduct this study with such a productive group. I found that leadership need not be overt, but rather, nurturing the CoP and allowing the cohorts the autonomy to develop the enhancements together is an essential leadership skill.

Limitations

After reading the findings and discussion, there are some limitations to this study that must be considered.

- The quantitative survey was created by the CoP and would have to be fine-tuned and administered several more times to increase reliability of the instrument.
- The repeated testing effect may have had an impact on students' pre-test and post-test scores (Brewer, 2000). The students were swim tested for the pre-test and post-test and there are environmental factors that must be considered such as weather and temperature (the GFJRHS pool is an outdoor facility), which could impact the results.
- The students knew what to expect during the post-test due to being exposed to the test previously (pre-test), which could affect the validity of the results.
- Although the journal provided insight into how the curriculum was being implemented, due to the time constraints, I was not able to ask prearranged questions as planned. I would consider the time walking to and from the pool a

limitation that resulted in my journal entries being more observational than conversational. In future research, I would better plan for time constraints, especially to shorten the transition time for students.

What I Would Do Differently

There are three things I would change if conducting the research again. First, I would have asked questions differently during the focus group interviews. For example I asked, “What helped you learn proper swimming technique best; the videos, teacher demonstrations, or other student demonstration and why?” While this did let me know which observation learning style they preferred, it did not let me know how they felt about each. I should have asked about each observational learning style separately since students may talk about videos being beneficial; however, that does not mean they did not value the other observational learning techniques.

Second, an audio recording of students’ conversations during a lesson would have provided another triangulation point. Recording interactions during a mini safety lesson would help me capture students’ reactions and questions.

The last change would be shortening some of the mini safety lessons to increase student practice time. I would mix ability levels within lane assignment as Bielec (2007) notes in his study, groups should be “consisting of 4-7 pupils. Each group should include pupils with advanced swimming skills, students with intermediate swimming skills, and swimming beginners” (p. 209). The mix of swim skills could be beneficial to students so that they can support each other by providing feedback throughout the lessons.

Next Steps

My next steps, possibly including an additional cycle of action research, suggest implementing the changes suggested by the participants and researching the effects of the enhanced curriculum on non-swimmers.

The seventh grade students reported “time” and “eighth graders” as the biggest challenges to their learning. During the swim unit, students are assigned lanes based on ability level and not grade level. In the fall we will try and keep lane assignment within grade level and mix ability levels. Also, we need to research the growth that our level 1 swimmers are experiencing throughout the curriculum.

As a professional educator engaged in action research, I will continue to discover problems and work to solve them through research projects. As I conclude this study, I have answered my research questions but now find myself asking another...and another. I would like to further examine how limited exposure to swimming can change the dynamic of the study. Also, in this project we had many students enter the curriculum at a level 3. I would like to look more into the growth of students beginning at lower levels and determine if the curriculum receives similar results. My next action research study will seek to answer these questions.

Final Thought

Aquatics serves as a multi-faceted activity that can provide many benefits to participants. However, “swimming related accidents are the second leading cause of death among young people” (Darst & Pangrazi, 2009, p. 398). Providing instructional swim programs in secondary school physical education seeks to reduce the risks of swimming as an activity. The more we teach our children at a young age the benefits of

aquatics and participating in swim activity, the more they may incorporate swimming as a beneficial physical activity throughout their lives. My action research project sought to improve the way swimming was taught in schools so that children could reap the benefits of being able to swim and be safe around the water. This research will not stop at this project, as I will work to continue my examination of the topic in future action research endeavors.

References

- Allen, I.E., & Seaman, C. (2007). Statistics roundtable: Likert scales and data analyses. *Quality Progress*, 40(7), 64-65.
- American National Red Cross. (2004). *Swimming and water safety*. Yardley, PA: StayWell.
- American National Red Cross. (2009). *Water safety instructors manual*. Yardley, PA: StayWell.
- Arizona Child Fatality Review Team (ACFRT). (2011). *Eighteenth annual report November 2011*. Retrieved from http://www.azdhs.gov/phs/owch/pdf/reports/Eighteenth-Annual-CFR-Report_Nov2011.pdf
- Asher, K. N., Rivara, F. P., Felix, D., Vance, L., & Dunne, R. (1995). Water safety training as a potential means of reducing risk of young children's drowning. *Injury Prevention*, 1, 228-233
- Bandura, A. (1977). *Self-efficacy: The exercise of control*. New York: Freeman
- Bandura, A. (1986). Observational learning. In *Social foundations of thought and action: A social cognitive theory* (pp. 47-105). Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In *Self-efficacy beliefs of adolescents* (pp. 307-337). Greenwich, CT: Information Age Publishing.
- Bielec, G. (2007). Methodological and teaching organizational problems in teaching swimming. *Studies in Physical Culture and Tourism*, 14(2), 205-211.
- Brewer, M. (2000). Research design and issues of validity. In H. Reis, & C. Judd (Eds.), *Handbook of research methods in social and personality psychology*. Cambridge: Cambridge University Press.
- Butler, L. F. (2002). *Teaching lifetime sports*. Westport, CT: Bergin & Garvey.
- Centers for Disease Control. (2012a). *Adolescent and school health*. Retrieved from <http://www.cdc.gov/healthyyouth/physicalactivity/facts.htm>
- Centers for Disease Control. (2012b). *Unintentional drowning: Get the facts*. Retrieved from <http://www.cdc.gov/homeandrecreationalafety/water-safety/waterinjuries-factsheet.html>

- Corbin, C.B. (2002). Physical activity for everyone: What every physical educator should know about promoting lifelong physical activity. *Journal of Teaching in Physical Education*, 21(2), 128-144.
- Corbin, J., & Strauss, A. (2007). *Basics of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J.W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Creswell, J.W., & Plano Clark, V. L. (2010). *Understanding research: A consumer's guide*. San Francisco, CA: Pearson.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.
- Darst, P.W., & Pangrazi, R.P. (2009). *Dynamic physical education for secondary school students* (6th ed.). San Francisco, CA: Pearson Education.
- Darst, P.W., Pangrazi, R.P., Scariscany, M.J. & Brusseau, T. (2012). *Dynamic physical education for secondary school students* (7th ed). San Francisco, CA: Pearson Education.
- Feltz, D. L., Short, S. E., & Sullivan, P. J. (2008). *Self-efficacy in sport*. Champaign, IL: Human Kinetics.
- Fronsk, H. (2012). *Teaching cues for sport skills for secondary school students* (5th ed.). Boston, MA: Benjamin-Cummings.
- Glaser, B., & Strauss, A. (1967). *Discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Greene, J.C. (2007). *Mixed methods in social inquiry*. San Francisco, CA: Jossey-Bass.
- Grosse, S. J. (2005). *Assessment of swimming in physical education*. Reston, VA: National Association for Sport and Physical Education.
- Javier, J. (2010, May 22). School drowning raises safety questions. *The Arizona Republic*. Retrieved from <http://www.azcentral.com/arizonarepublic/local/articles/20100522glendale-teen-drowning-in-pe-class.html>
- Kulinna, P., William, W., Jonaitis, S., Dean, M., & Corbin, C. (2009). The progression and characteristics of conceptually based fitness/wellness courses at American universities and colleges. *Journal of American College of Health*, 58(2), 127-31. doi: 10.1080/07448480903221327.

- Laslov, K.B., Mann, S., & Dahlgren, L.O. (2008). Developing a community of practice around teaching: A case study. *Higher Education Research and Development*, 27(2), 121-132. doi: 10.1080/07294360701805259
- Marcus, B. H. (2003). Exercise initiation, Adoption, and Maintenance in Adults: theoretical models and Empirical Support. In B. W. Brewer & J.L. Van Raalte (Eds.), *Exploring sport and exercise psychology* (pp. 185-208). Washington, DC: American Psychological Association
- Martin, J. J., & Kulinna, P. H. (2005). A social cognitive perspective of physical activity-related behavior in physical education. *Journal of Teaching in Physical Education*, 24, 265-281.
- McCullagh, P., & Weiss, M. R. (2002). *Exploring sport and exercise psychology* (2nd ed.). Washington, DC: American Psychological Association.
- McKenzie, T. L., & Lounsbery, M. F. (2009). School physical education: The pull not taken. *American Journal of Lifestyle Medicine*, 3(3), 219-225.
- Metzler, M.W. (2011). *Instructional models for physical education* (5th ed.). Scottsdale, AZ: Holcomb Hathaway Publishers Inc.
- Metzler, M. W., McKenzie, T. L., Van Der Mars, H., Barrett-Williams, S.L., & Ellis, R. (2013). Health Optimizing Physical Education (HOPE): A new curriculum for school programs- part I. *Journal of Physical Education, Recreation, and Dance*, 84(4), 41-47. DOI: 10.1080/07303084.2013.773826
- National Association for Sport and Physical Education (NASPE). (2004). *National standards for physical education*. Retrieved from <http://www.aahperd.org/naspe/standards/nationalstandards/pestandards.cfm>
- National Center for Health Statistics. (2012). *Healthy people 2000*. Hyattsville, MD: Author.
- Olejnik, S., & Algina, J. (2000). Measures of effect size for comparative studies: Applications, interpretations, and limitations. *Contemporary Educational Psychology*, 25, 241-286. doi:10.1006/ceps.2000.1040
- Pangrazi, R. (2003). *Dynamic physical education for elementary school children* (14th ed.). San Francisco, CA: Benjamin-Cummings.
- Parker, M., Patton, K., Madden, M., & Sinclair, C. (2010). From committee to community: The development and maintenance of a community of practice. *Journal of Teaching in Physical Education*, 29, 337-357.
- Patten, M. L. (2012). *Understanding research methods: An overview of the essentials*. Glendale, CA: Pyrczak.

- Phoenix Children's Hospital. (2013). *Playing it safe program – water safety*. Retrieved from <http://www.phoenixchildrens.org/community/injury-prevention-center/water-safety/for-toddlers-preschoolers/playing-it-safe>
- Racette, S., Cade, T., & Beckman, L. (2010). School based physical activity and fitness promotion. *Journal of the American Physical Therapy Association*, 90(3), 1214-1218.
- Rheker, U. (2004). *Aqua fun first steps*. Oxford, UK: Meyer & Meyer Sport.
- Stallman, R. K., Junge, M., & Blixt, T. (2008). The teaching of swimming based on a model derived from the causes of drowning. *International Journal of Aquatic Research and Education*, 2, 372-382.
- Strauss, A.L., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*. Thousand Oaks, CA: Sage.
- Theodorakis, Y. (1995). Effects of self-efficacy, satisfaction, and personal goals on swimming performance. *The Sport Psychologist*, 9, 245-253
- Thomas, D. (2005). *Swimming steps to success* (3rd ed.). Champaign, IL: Human Kinetics.
- U.S. Department of Health and Human Services. (2008). *2008 physical activity guidelines for Americans*. Washington, D.C.: Author.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.
- Wenger, E. (1999a). *Communities of practice and social learning systems*. Retrieved from <http://www.ewenger.com>
- Wenger, E. (1999b). *Communities of practice stewarding knowledge*. Retrieved from <http://www.ewenger.com>
- Wenger, E., McDermott, R., & Snyder, W. (2002). *A guide to managing knowledge: Cultivating communities of practice*. Boston, MA: Harvard Business School Press.
- YMCA of the USA. (1999). *Teaching swimming fundamentals*. Champaign, IL: Human Kinetics.

APPENDIX A
PRE-TEST AND POST-TEST

Level 1

- Student has “little or no” water experience
- Cannot submerge face in the water
- Is not comfortable being in the water
- Learning Objectives: Submerge face in the water, blow bubbles, enter and exit water safely, and front and back float with support

Level 2 Students who can:

- Enter and exit water safely
- Completely submerge head underwater and blow bubbles for three seconds
- Front and back float without support
- Recover from front and back float without support
- Change directions (roll over from front to back with support)
- Swim 5 yards on front and back with arm and leg action

Level 3 Students who can:

- Enter the water by jumping from the side
- Front and back glides with flutter kicks two body lengths
- Tread water using arms and leg action for 5 to 10 seconds
- Combine rhythmic breathing with leg and arm action on front 10 yard
- Combine arm and leg action on back 10 yards

Level 4 Students who can:

- Perform near perfect freestyle 25 yards with rotary breathing
- Perform backstroke 25 yards

Level 5 Students who can:

- Perform 25 to 50 yards freestyle and backstroke
- Perform 25 yards of breaststroke and elementary backstroke

Level 6 Students who can:

- Swim 50 yards of freestyle and backstroke
- Swim 50 yards of breaststroke and elementary backstroke
- Tread water with ease

APPENDIX B

PRE-SURVEY AND POST-SURVEY

This survey will take approximately 15 minutes. Participation is part of the swim unit but will not have any impact on your grade and your responses **will be kept confidential**. Your input will be of great help and is sincerely appreciated.
Thank you for your participation.

Please circle the response that best describes your attitude.

1. I can swim well

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

2. I can swim to the end of the pool and back

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

3. I can swim properly

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

4. I can help a swimmer who is drowning

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

5. I can recognize a swimmer who is drowning

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

6. I can properly use equipment to help someone who is drowning

0	1	2	3	4	5	6	7	8	9	10
Cannot					Moderately					Highly
do at all					certain	can do				certain
										can do

The next set of questions contains six options. Please circle the response that best describes your attitude.

7. I know how to swim two strokes (freestyle, backstroke, breaststroke, butterfly)

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

8. I swim freestyle well

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

9. I swim backstroke well

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

10. I swim breaststroke well

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

11. Treading water is easy for me

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

12. I swim well

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

13. I know what to do if someone were drowning

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

14. I look for pool rules when I go to the pool

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

15. I know how to use a ring buoy

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

16. I know what to do if a swimmer was drowning

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

17. Helping someone who was drowning would be easy for me

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

18. I would be able to recognize if someone was drowning

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

19. Watching the swimming video made me a better swimmer

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

20. The swimming video taught me better form

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

21. Watching the teacher's demonstrate strokes made me a better swimmer

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

22. Teacher demonstrations taught me better form

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

23. Watching students demonstrate strokes taught me better form

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

24. Student demonstrations taught me better form

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

APPENDIX C

PARTICIPANT/STUDENT/PARENT CONSENT FORM

CONSENT FORM
Expanding a Secondary School Swim/Safety Curriculum
Through a Community of Practice (CoP)

INTRODUCTION

The purposes of this form are to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved in the study.

RESEARCHERS

Sean Jonaitis, Physical Education teacher at Greenfield Junior High School has invited your participation in a research study under the direction of Dr. Keith Wetzel and Dr. Ann Ewbank of Arizona State University.

STUDY PURPOSE

The purpose of the research is to use the idea of Expanding a Community of Practice (CoP) with the existing CoP at Greenfield Junior High (Physical Education teachers who teach swimming) utilizing Observational Learning theory, to examine current curriculum and make improvements that will meet the highest of safety standards, to eventually be incorporated district-wide. Students at Greenfield Junior High will be surveyed in the spring of 2013 and the fall of 2013 to determine how this study has affected their knowledge of swimming and swim safety.

DESCRIPTION OF RESEARCH STUDY

If you decide to participate as a teacher, you will join a study research of swim curricula. Students, with their legal guardians' permission, who decide to participate, will play a crucial role in determining the effectiveness of the improved curriculum. You will be participating with other students and teachers at Greenfield Junior High to improve safety/curriculum guidelines. You will be interviewed, observed, and surveyed on the current swim curriculum in which you participate, and your impressions of our joint effort to improve the existing curriculum may be requested. At any time you can decline to respond to interview questions or skip questions on a survey.

If you say YES, then your participation will last for the next year and a half within the Gilbert Unified School District. You will be asked to participate in interviews, surveys and observations, and asked to work collaboratively with teachers and students on curriculum. Approximately 16 teachers and 200 students will be participating in this study.

RISKS

There are no known risks from taking part in this study, but in any research, there is some possibility that you may be subject to risks that have not yet been identified.

BENEFITS

The possible/main benefits of your participation in the research is that you will have the opportunity to work collaboratively on a swim curriculum that will be used district-wide and gain knowledge on swim curricula and pool safety. Participants will be able to have the opportunity to reduce the risks for students while engaging in swim curricula.

CONFIDENTIALITY

All information obtained in this study is strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researchers will not identify

APPENDIX D
STUDENT FOCUS GROUP PROTOCOLS

INTRODUCTION	Researcher	As you know, I'm Mr. Jonaitis. Welcome to our discussion about the swim unit in phys ed. Thank you for taking the time to participate and help us make our classes more helpful and fun for you as you learn about swimming safely. I need your honest opinions and ideas.
GUIDELINES	Researcher	<p>Our discussion should only be 20 minutes, so we need some guidelines.</p> <ol style="list-style-type: none"> 1. Talk one person at a time, so you can be heard. 2. Pay attention when someone else is talking, it may give you new ideas. 3. We need everyone to participate, so give others a turn to talk. 4. Please don't critique other people's answers; we all have different opinions.
QUESTIONS	Researcher	<ol style="list-style-type: none"> 1. Can you swim better after the swim unit? Why or why not? 2. Can you swim certain strokes better? Which one's? What helped you? 3. Can you identify a struggling swimmer? How? 4. Can you help a struggling swimmer? How? 5. Has the swim unit made you feel safer around water? Why or why not? 6. What helped you learn proper swimming technique best? The videos, teacher demonstrations, or other student demonstration and why? 7. Have you become a better swimmer after the swim unit? How? 8. What would you add to the class if you were the teacher? (i.e. What would help you learn?)

APPENDIX E
TEACHER FOCUS GROUP PROTOCOLS

INTRODUCTION	Researcher	Thank you for taking the time to participate and help us improve our swim classes to emphasize safety and security among our students.
GUIDELINES	Researcher	Please feel free to critique the curriculum we have put into place as to its pros and cons so that we can modify as needed.
QUESTIONS	Researcher	<ol style="list-style-type: none"> 1. Do you feel that the students have a better idea about water safety than our previous curriculum? How? 2. Have you noticed an improvement in your students' knowledge and implementation of safety procedures? How? 3. How have students increased their swimming skills? 4. What observational learning technique do you feel was most beneficial to student learning and why? 5. Do you feel students are more confident they can swim better because of our swim unit and why or why not? 6. Do you feel students are more confident about water safety? Why or why not? 7. What would you add to the class? 8. What safety mini-lessons would you add?
TEACHER CONCLUSIONS	Cohorts	Summarize the discussion and overall opinions of the group.

APPENDIX F
LESSON PLAN EXAMPLE

AQUATICS LESSON

PERFORMANCE OBJECTIVE (STUDENT OUTCOMES)

- Student will learn how to identify an active drowning, passive drowning, and distressed swimmer.
- Students will demonstrate a flutter kick
- Students will show proper arm techniques in the crawl stroke (turning head to the side)
- Students will work cooperatively during a “Kickboard Challenge”

INTRODUCTORY ACTIVITY (MINI SAFETY LESSON): What does an active drowning victim, passive drowning victim, and distressed swimmer look like? Students will be given a demonstration on what drowning looks like. Teacher will demonstrate what a distressed swimmer, an active drowning victim, and a passive drowning victim would typically look like in the water.

FITNESS: Flutter Kick

Observational learning strategy: Teacher and student will model the freestyle kick

Holding onto a kickboard with both hands, students will practice a flutter kick. The kicking motion originates from the hips, with a 12-15 inch range in kicking. Students will focus on keeping the legs straight with a slight bend at the knees and toes pointed. Students will then kick out to the middle of the pool and on a signal kick back to the same side of the pool they originated from.

LESSON: Front Crawl Stroke

Observational learning strategy: Teacher and student will model the freestyle stroke

Teach proper breathing technique and arm movement in waist high water, in a stationary position prior to students attempting the front crawl stroke.

Arm Stroke: Arms alternate using the following movement skills: Arms follow a backwards S pattern. While one arm is in recovery, the other enters the water. This is done on the side of the pool first using the wall for support. Then students will use kickboards with their hands extended to practice the skill.

GAME: Kick Board Challenge

Students will find a partner and hold on to the opposite ends of on kickboard. The students must keep the board on the surface of the water and attempt to push their partner backwards by using a flutter kick on their stomach (prone position).

MATERIALS NEEDED: Kickboards

APPENDIX G
PERMISSION TO CONDUCT RESEARCH

Sean Jonaitis

435 W. Rio Salado Parkway #330, Tempe, AZ 85281 Cell: 602.770.8985 Email: seanjonaitis@hotmail.com

April XXXXXXXXX, 2013

Ms. XXXXXXXXX
Assistant Superintendent, Educational Services
XXXXXXXXXX Public Schools

Dear Mrs. XXXXXXXXX,

As part of my doctoral studies in the Leadership and Innovation program at Arizona State University, I am requesting your permission to conduct research at XXXXXXXXX Junior High School (GFJRHS). The study will take place during the boys swim curriculum from August 15, 2013 to September 12th, 2013. The audience is students and teacher educators. The names of participants will be kept confidential.

The purpose of this mixed methods study will address whether observational learning techniques and mini aquatics safety lessons incorporated into an enhanced swim curriculum improves students swimming ability, self-efficacy in swimming, and safety knowledge. As part of the enhanced curriculum, pre-test and post-test swim assessments, as well as pre-test and post-test surveys will be used to test the theory of observational learning that predicts that students exposed to observational learning techniques will learn to perform a task more efficiently for seventh grade male students at GFJRHS. Also, the pre-test and post-test survey will be used to test whether the enhanced curriculum has increased swim ability, self efficacy, and water safety knowledge of seventh grade male students at GFJRHS. I am requesting permission to have access to a classroom on August 15th 2013 and September 12th, 2013 in order to conduct the Pre-Test and Post-Test Surveys. Concurrent with this data collection, focus group interviews will explore how and to what extent the enhanced curriculum impacted swim ability, self-efficacy,

and learning for seventh grade male students at GFJRHS. Permission will be obtained from both the student and guardian to participate in focus group interviews. The focus group interviews will take place on September 11th during the participants' scheduled physical education class. I will be journaling dialog by the instructors of the new curriculum and ask them to participate in a focus group, which will be voluntary. I expect that the enhanced curriculum will improve students swimming capabilities and provide them with valuable aquatics safety information.

If these arrangements meet your approval, please sign this letter and return it to me.
Thank you for your consideration of this endeavor.

Sincerely,

Sean Jonaitis

PERMISSION GRANTED FOR THE
ABOVE REQUEST:

XXXXXXXXXX, Assistant Superintendent

Date: _____

APPENDIX H
INSTITUTIONAL REVIEW BOARD APPROVAL

To: Keith Wetzel
FAB

From: Mark Roosa, Chair
Soc Beh IRB

Date: 07/18/2013

Committee Action: Exemption Granted

IRB Action Date: 07/18/2013

IRB Protocol #: 1307009377

Study Title: Expanding a Secondary Swim/Safety Curriculum Through a Community of Practice

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.