

Running head: GIRLS' BASKETBALL AND THE JUMP SHOT

GIRLS' BASKETBALL AND THE JUMP SHOT: A STUDY OF THE  
EFFECTIVENESS OF THE TEN POINT, 100 SHOT, *STAR JUMP SHOOTING DRILL*  
ON JUNIOR HIGH GIRLS' GAME SHOOTING PERCENTAGES

A Thesis

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## ABSTRACT

Forming a truly effective jump shot is a difficult task for many female athletes at all age levels in the sport of basketball. Although it requires patience and hard work, effective jump shooting may significantly increase individual athlete scoring in contests. The researcher, as a coach, believed this to be true; therefore, the researcher developed an original ten point, 100 shot, *Star Jump Shooting Drill* for seventh and eighth grade female athletes in the sport of basketball. This study tested the effectiveness of the *Star Jump Shooting Drill* using an experimental design with the participants' mean individual shooting percentages from three contests serving as the pretest and posttest data.

## DEDICATION

This thesis project is dedicated to the  
2005 Lady Trojans of Newport Junior High School,  
whom I am ever so grateful to have had the opportunity to coach.

## ACKNOWLEDGEMENTS

Above all, I want to thank my husband, Andrew Hanes, for his patience, love, and support. He has made countless sacrifices in an effort to allow me to concentrate on my research and maintain a winning season as a coach.

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## TABLE OF CONTENTS

	Page
Abstract .....	ii
Dedication .....	iii
Acknowledgements .....	iv
Lists of Figures and Tables .....	vii
Chapters:	
1. Introduction .....	1
<i>Statement of the Problem</i> .....	2
<i>Purpose</i> .....	2
<i>Research Questions</i> .....	2
<i>Hypotheses</i> .....	3
<i>Definition of Terms</i> .....	4
<i>Limitations of the Study</i> .....	5
2. Review of Literature .....	6
3. Methods .....	12
<i>Study Design and Participants</i> .....	12
<i>Procedure</i> .....	13
<i>Data Analysis Procedure</i> .....	14
4. Results.....	15
<i>Data Collected</i> .....	15
<i>Data Analysis</i> .....	16

5. Discussion .....	19
<i>Summary of Findings</i> .....	19
<i>Athlete Interviews</i> .....	21
<i>Implications</i> .....	24
<i>Recommendations for Future Research</i> .....	24
6. Resources .....	26
7. Appendix .....	27
<i>Human Subjects Review Form</i> .....	28
<i>Informed Consent / Parent Permission Form</i> .....	31

## LIST OF FIGURES

1. Ten Shooting Spots during the <i>Star Jump Shooting Drill</i> and Suggested Rotation .....	14
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## LIST OF TABLES

1. Mean Shooting Percentages of Athletes in the Experimental Group.....	15
2. Mean Shooting Percentages of Athletes in the Control Group.....	16
3. Paired Samples Statistics.....	17
4. Paired Samples Correlations.....	18

## CHAPTER 1

### INTRODUCTION

Five, four, three, two...and it's good! The crowd roars as one young lady rises above the defense and scores in the final seconds of a thrilling game of basketball. Boys are not the only ones who can shoot the jumper. As time progresses more and more female athletes are interested in perfecting a jump shot to boost their scoring potential.

A jump shot, defined as a shot in basketball in which the shooter rises at least five inches from the floor and releases the ball with correct form above the head at the highest point in her jump, consistently proves itself to be more effective in game situations than the traditional set shot because the shooter rises above the defense to avoid getting blocked.

An effective jump shot is not easy to acquire, as set shooting is generally taught first to young athletes. Dedicated female athletes spend countless hours in an effort to improve; however, they often give up before reaching their goal. For this reason, teaching female athletes how to correctly shoot a jump shot in their early years is imperative for future success. As soon as a young athlete has the strength to shoot the ball with correct form above her head, it is time to begin working on the jumper. It is also important for female athletes to have opportunities to practice this skill in a fun, time efficient way.

For these reasons, the researcher, a seventh and eighth grade girls' basketball coach, developed a ten point, 100 shot, *Star Jump Shooting Drill*. This study determined whether or not the drill, completed six days per week over a one-month period, significantly improved individual athlete's game shooting percentages.



### *Statement of the Problem*

Many female athletes do not receive appropriate instruction or adequate opportunities to practice shooting a jump shot early enough in their careers to develop and perfect this skill. Therefore, these athletes are not reaching their maximum scoring potential in game situations.

### *Purpose*

As a junior high girls' basketball coach, the researcher was interested in helping athletes improve their jump shooting ability early in their careers before they reach high school. In order to accomplish this, the researcher developed a ten point, 100 shot, *Star Jump Shooting Drill* with explicit instructions.

The purpose of this study was to determine whether or not the *Star Jump Shooting Drill* significantly improved individual athlete's shooting percentages in game situations when performed by each athlete six days per week over a one-month period.

### *Research Questions*

There are several questions generated by this study, and there are many avenues for further research on the topic.

Could the *Star Jump Shooting Drill* prove to be effective with female athletes of other age groups? Would the *Star Jump Shooting Drill* be more effective when performed for a period of time longer than one month? What other patterns besides a star could be used to design an effective jump shooting drill? Does the length of time each athlete spends completing the drill impact its effectiveness? Does the quality of the pass the shooter receives during the drill impact its effectiveness?

*Research Hypotheses*

*Null Hypothesis*

Performing the *Star Jump Shooting Drill* six days per week for a period of one month makes no significant difference in individual female athlete's mean shooting percentages during three contests.  $H_0$

*Alternative Hypothesis*

Performing the *Star Jump Shooting Drill* six days per week for a period of one month makes a significant positive difference in individual female athlete's mean shooting percentages during three contests.  $H_1$

*Definition of Terms*

GAME SHOOTING PERCENTAGE – the number of shots an athlete made divided by the number of shots the athlete attempted during a contest

JUMP SHOT – defined in this study as a shot in basketball in which the shooter rose at least five inches from the floor and released the ball with correct form above the head, while at the highest point in her jump

JUNIOR HIGH LEVEL – athletes in grades seven or eight, approximately ages 12 through 14

SET SHOT – defined in this study as a shot taken using correct hand placement, while the athlete stood on the floor, or a shot taken while the athlete began to jump but had not reached her highest point in the air

*Limitations of the Study*

As the *Star Jump Shooting Drill* was originally created by the researcher, additional replicate studies certainly are necessary to determine its true effectiveness.

In addition, this research was conducted using purposeful sampling from one junior high girls' basketball team. It would be interesting to see if the results of the study hold true with young female athletes from other school districts, who are coached differently.

The researcher intends to replicate this study in another school district; however, the researcher is also the coach in that district, so the coaching style would remain the same even though the athletes are from a different area.

Finally, only time will tell if the *Star Jump Shooting Drill* implemented early would also improve athlete's performances later on in high school, as the researcher hoped. A longitudinal study would be an interesting continuation of this research.

## CHAPTER 2

### LITERATURE REVIEW

Shooting is fundamental to the game of basketball. A shot, in its most perfect form, is a softly rotating, high arcing, toss in which the ball is released slightly before the peak of an athlete's jump. Thus, it is commonly referred to as the jump shot. Some coaches and experts argue that shooters are born. Others, including the researcher, believe that good shooters can be made. The following review of literature will describe in depth the characteristics of an excellent jump shot, it will provide an overview of jump shooting drills that experts believe to be effective, and it will conclude with practical implications for practice.

Every athlete has his or her own slightly different shooting style. Some shooters emphasize arch, some emphasize backspin, and others are more aware of balance. Whatever one's style, there are certain key components of shooting that are essential to perfecting mechanics (Kelley, 2003).

The first important component is the leg base. Strong leg and back muscles are a must. Kelley (2003) recommends a regular regimen of exercise, stretching, and lifting to keep muscles at their peak, so that they are able to provide the force to lift the ball up over the rim.

Squaring up is another key to great shooting. Shoulders and feet need to be in line with the basket and remain that way even after the shot is released (Human Kinetics, 2001). Balance is achieved by keeping a shoulder width base and distributing one's weight evenly on both feet (Human Kinetics, 2001).

A third item of importance is controlling the jump. The shooter should not over exert herself when jumping, or the shot will suffer (Kelley, 2003). A fluid motion will be maintained if the shooter releases the shot just before the maximum height of her jump is reached (Kelley, 2003).

The elbow and hands play a huge role in the success or failure of a shot. The elbow should be tucked close to the shooter, under the ball (Kelley, 2003). The shooting hand provides the sole force behind the ball, as the guide hand only provides balance (Kelley, 2003). The pads of the fingers should be on the ball, not the palm of the hand.

The spin on the ball depends upon how one's fingers release it (Converse All Star, 1996). A good spin is a backspin. It is achieved by following through (Converse All Star, 1996). Following through with the hands is imperative. According to Kelley (2003), the shooter should keep her arms extended and the wrist bent as if posing for a picture until the ball goes through the net.

The final components of a good shot are sight of the target and confidence. A shooter's eyes should be focused just over the front of the rim. A good shooter never watches the flight of the ball (Weatherspoon, 1999). An athlete also should not bring the ball in front of her face (Converse All Star, 1996). Instead, the player should bring the ball to the forehead and create a shooting window to look through in between her arms (Converse All Star, 1996). Excellent shooters are highly confident individuals. They forget about missed opportunities, and focus on persevering for a made basket (Kelley, 2003).

Although the key components discussed above will greatly enhance shooting ability, all athletes go through a shooting "slump" at times. Even the most experienced players will go through mild slumps, in which a made basket seems impossible to achieve

(Mikes, 1987). Shooting slumps can be frustrating times for athletes, and it is important for them to remain calm. Pressuring oneself excessively can result in a continuing chain reaction of failure (Mikes, 1987).

To avoid or overcome a slump, Mikes (1987) suggests taking a break from the action to focus on body and visual awareness. Releasing tension and restoring natural rhythm are helpful. It is not advantageous, according to Mikes (1987), to change one's entire shooting style during a slump. This will only lead to further frustration.

According to Carroll (2003), mental confidence is more important during shooting than during any other aspect of the game of basketball. One has to feel comfortable taking shots in practice, in order to have the confidence to shoot during a game (Carroll, 2003). Coaches can help instill confidence in younger players by demonstrating that two balls can fit through a rim simultaneously (Carroll, 2003). It also helps when a coach can reassure an athlete that making 50 percent of one's shots is generally an excellent field goal average (Carroll, 2003).

There is an endless supply of literature on drills that can be used to perfect jump shooting in an effort to achieve a 50 percent or better field goal average. A sampling of drills and practice routines follows, that the researcher found to be innovative and supported by experts.

Hecker (2001) claims that a change in technique is often necessary in order for players to improve their shooting. He believes that the most common problem in shooting lies with the elbow. Athletes often move their shooting elbow out too far, which results in a weak shot with little arch (Hecker, 2001). In order to correct this problem, Hecker (2001) suggests the use of a hula hoop.

The hoop should be placed around the shooter and adjusted up or down by the coach. The athlete will automatically shoot over the hoop, which can be pulled back to keep the elbow in place (Hecker, 2001). This drill will promote elbow lift and higher release of the ball, as well as a proper follow through (Hecker, 2001).

Another popular shooting exercise is the *Three-Man Shooting Drill*. The drill requires a shooter, a passer, a rebounder, and two basketballs. The purpose of the drill is to keep a ball in the shooter's hands at all times to promote rhythm (Mallozzi, 1998). The rebounder's job is to retrieve the ball and quickly pitch it to the passer. The passer then gives a sharp quick bounce pass to the shooter, so that she can shoot the jump shot quickly, mimicking a real game scenario (Mallozzi, 1998). After the shooter takes 10 shots, the athletes rotate positions. The drill should be performed for about ten minutes of each practice session (Mallozzi, 1998).

Although the *Three-Man Shooting Drill* may mimic game speed, the *Distract the Shooter Drill* provides athletes with the feeling of true pressure that will exist when playing an opponent. In this drill, one player stands underneath the basket and rolls the ball to a second player (Garfinkel, 1988). As the second player picks up the ball to shoot it, the first player runs at her at full speed, holding up her hands, and yelling (Garfinkel, 1988). After ten shots, the players reverse roles. Each player should complete five sets of ten shots each during this drill (Garfinkel, 1988).

Shooting drills can sometimes become repetitive and boring, especially for younger players. *Beat the Star* is a drill that is designed to challenge athletes but create an enjoyable practice session as well. In *Beat the Star*, players begin with a free throw and then shoot jump shots of their choice around the court (Krause, 1991). Athletes get one point for a made free throw or jump shot. For every free throw an athlete misses, the



fictitious star player of the athlete's choice gets three points. For every missed jump shot, the star gets two points (Krause, 1991). Krause (1991) suggests that the game be played to either 11 or 21 points.

Another way to make shooting drills more exciting is to involve the entire team in a race, like in Grentz and Miller's (1997) *Pressure Shooting Drill Number 24*. During this drill, players line up in two relay lines starting at one baseline. The first player in each line must dribble up the court with her outside hand. After crossing half court, each must cross dribble to her inside hand and shoot a jump shot from the elbow (Grentz & Miller, 1997). If the shot is a make, the player dribbles back to the line and hands the ball to the next player. If it is a miss, she dribbles back with the outside hand, crosses to the inside hand, and shoots an elbow jump shot on the other end of the court. The player continues from one end of the court to the other, until a shot is made. Then, she may dribble back and hand off the ball to the next player. The relay line that finishes first is declared the winner (Grentz & Miller, 1997).

These five drills provide a sampling of the various shooting drills that have been published and are available to coaches and players alike. Utilizing a variety of drills and strategies to teach jump shooting is more likely to produce a desired result, as athletes learn in different ways and are strong and weak in different areas.

It takes an immense amount of practice and dedication to become a valuable offensive threat. According to *Basketball for Women – Offensive Skills* (1998), a Human Kinetics Video, there is much more to being an offensive threat than shooting alone. An athlete must be able to handle the ball, pass, and move appropriately without the ball as well (Human Kinetics, 1998). Setting up shooting drills, that will enhance one's team offense, will help combine other aspects of the game with each athlete's jump shot.

Simulating game shots during drills, according to the team offensive patterning, is important (Saylor, 2002). Thus, not all shooting drills are helpful to every team. The savvy coach must pick and choose what is most appropriate.

All in all, to be an excellent shooter, one must take between three and five hundred shots per day (Converse All Star, 1996). Surprisingly, this only takes about one to two hours, and the improvement in one's skills will be obvious (Converse All Star, 1996). This researcher believes that developing the *Star Jump Shooting Drill* will provide athletes with yet another challenging, but fun way to improve their skills.

## CHAPTER 3

### METHOD

#### *Study Design and Participants*

Evaluating the effectiveness of the *Star Jump Shooting Drill* on junior high girls' game shooting percentages was done using mixed method research that was primarily quantitative. A true experimental design was used, with a pretest and a posttest to collect data. After the experiment, the participants were interviewed to provide qualitative insight to compliment the data.

Junior high girls' basketball players were purposefully selected for the study from the team that the researcher currently coaches. The participants consisted of twelve girls, ages 13 – 14, from one basketball team in a small rural school. Six of the twelve girls participated in the experimental group, while the other six composed the control group.

Before beginning the study, written permission was obtained from the school principal, who is the acting athletic director, and from a parent or guardian of each participant in both the experimental and the control groups.

One advantage of the quantitative, experimental approach to the study was that a numerous amount of data could be gathered in a short amount of time. By collecting data from contests, as a pretest, and by collecting data from contests one month later, as a posttest, the researcher also diminished many threats to validity.

The major disadvantage of using a quantitative, experimental design is that the research relies on numbers alone. Therefore, by collecting data qualitatively through interviewing the participants, the researcher learned more about why the *Star Jump Shooting Drill* was advantageous for some and of little help to others.

### *The Procedure*

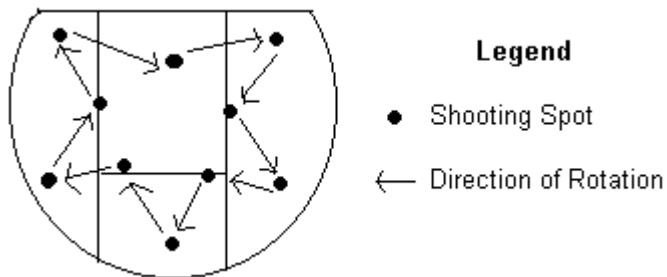
After the participants were purposefully selected and permission to conduct the study was obtained, the twelve athletes were divided into two equal groups by a random drawing of names. By using a random drawing to determine the participants in the experimental group, girls of all skill levels from the team were included.

After the athletes were assigned a spot in either the experimental or the control group, data was collected during three contests to determine each girl's average shooting percentage in a game situation. Shots attempted and shots made were tallied together for three games and then calculated using the following equation for each athlete.

$$\text{shots made} / \text{shots attempted} = \text{shooting percentage}$$

Upon compiling the pretest data, the researcher trained the athletes in the experimental group on how to correctly perform the *Star Jump Shooting Drill*. The *Star Jump Shooting Drill*, developed by the researcher, consists of ten shots taken in rotation at ten different spots on the court for a total of 100 shots per session. Each shot must be taken from an overhead shooting position with the hands placed correctly on the basketball. In addition, the ball must be released near the highest point of an athlete's jump, in order to qualify as a jump shot. See Figure 1 for a diagram of the ten shooting spots included in the drill and arrows indicating the rotation among the spots. The participants in the control group were not trained on how to perform the *Star Jump Shooting Drill*. They continued with their regular practice routine.

Figure 1. Ten Shooting Spots during the *Star Jump Shooting Drill* and Suggested Rotation



After receiving training, the participants in the experimental group performed the *Star Jump Shooting Drill* with a partner, who rebounded and returned the ball to the shooter. Feedback on the performance of the drill and suggestions for improvement were provided to the participants only after the first session. After that, the participants in the experimental group performed the drill on their own with no additional coaching.

Participants in the experimental group then performed the drill once a day, six days a week, for a one-month period. At the end of the one-month period, each athlete's average game shooting percentage was calculated using the same format as the pretest collection of data. This data was used as the posttest for members of both the experimental and the control groups.

#### *Data Analysis Procedure*

The pretest and posttest data were analyzed and compared using SPSS to prove whether or not the results were statistically significant. The researcher proved the null hypothesis which states: Performing the *Star Jump Shooting Drill* six days per week for a period of one month makes no significant positive difference in individual female athlete's mean shooting percentages during three contests.  $H_0$

## CHAPTER 4

## RESULTS

*Data Collected*

Each athlete was assigned a number, ranging from one to twelve, on a nominal scale. Athletes numbered one through six composed the experimental group. Athletes numbered seven through twelve composed the control group. The mean shooting percentage of each athlete during the three game pretest and the three game posttest is expressed as a decimal.

Table 1

*Mean Shooting Percentages of Athletes in the Experimental Group*

<b>Athlete</b>	<b>Pretest</b>	<b>Posttest</b>
1	.50	.38
2	.27	.29
3	.20	.30
4	.44	.34
5	.13	.19
6	.31	.33

Table 2

*Mean Shooting Percentages of Athletes in the Control Group*

<b>Athlete</b>	<b>Pretest</b>	<b>Posttest</b>
7	.39	.16
8	.21	.29
9	.21	.40
10	.29	.19
11	.00	.00
12	.23	.31

*Data Analysis*

A t-test was conducted using SPSS on the data collected to determine the significance of the findings. Alpha was set at .05. The mean shooting percentages obtained during the pretest and the posttest were compared for both the experimental and the control groups. Table 3 illustrates the comparison and identifies the standard deviation and the standard error mean.

Table 3

*Paired Samples Statistics*

	<b>Mean</b>	<b>N</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Pair 1 – PreExp	.3083	6	.14077	.05747
PosExp	.3050	6	.06473	.02643
Pair 2 – PreCon	.2217	6	.12844	.05244
PosCon	.2250	6	.14011	.05720

Based on the paired samples statistics in Table 3, the alternative hypothesis cannot be accepted. Therefore, the null hypothesis which states, performing the *Star Jump Shooting Drill* six days per week for a period of one month makes no significant difference in individual female athlete's mean shooting percentages, holds true.

However, when reviewing the paired samples correlations in Table 4, the researcher found that alpha was met in the comparison of the experimental group's pretest and posttest data. A significance of .017 is likely related to the fact that the experimental group took more shots during the posttest games. A strong correlation of .892 indicates that participating in the *Star Jump Shooting Drill* may be closely related to taking more shots during games. A significant correlation was not evident in the control group's pretest and posttest data, as indicated in Table 4.



Table 4

*Paired Samples Correlations*

	<b>N</b>	<b>Correlation</b>	<b>Sig.</b>
Pair 1 - PreExp & PosExp	6	.892	.017
Pair 2 – PreCon & PosCon	6	.383	.454

## CHAPTER 5

## DISCUSSION

*Summary of Findings*

When reviewing the data collected, one quickly notices that the overall mean shooting percentages for both the experimental and the control groups did not significantly change from the pretest to the posttest. During the pretest, the experimental group's mean shooting percentage was found to be .3083, and during the posttest, it was .3050. The control group had a mean shooting percentage of .2217 during the pretest, and during the posttest, the control group's shooting percentage was .2250. Taking the standard deviation into consideration, there was no significant change in the results for either group.

The researcher, as a coach, found this to be somewhat disturbing. One would hope that throughout the course of the season, with practice, all athletes would increase their shooting percentages to some degree; however, there may be several factors that contributed to the lack of positive change in team shooting percentages including tournament play with a higher level of competition and the opponent's knowledge of the team's offensive threats.

The game shooting percentages, calculated during the pretest, were taken from regular season games. The game shooting percentages, calculated during the posttest, were taken from tournament games. It is likely that the level of defensive intensity was stronger during the posttest games in the county tournament. In addition, the athletes played one team during one game of both the pretest and the posttest. Perhaps the opposing team's

knowledge of the athletes' abilities and movements on the floor helped them play stronger defense during the posttest game, thus decreasing overall shooting percentages.

On a more positive note, it was interesting to find that participation in the *Star Shooting Drill* may be closely related to athletes taking more shots in game situations. In the paired samples correlations analysis (Table 4), alpha was met in the comparison of data from the experimental group's pretest percentage to their posttest percentage. No significant correlation was found in the comparison of data for the control group.

When looking at the raw data collected, the researcher noticed that the athletes in the experimental group took 59 more shots during the posttest than in the pretest. The control group only took six more shots. The researcher believes that this significant increase in the number of shots taken by the experimental group may be due to increased confidence and the ability to release the ball quickly above the defense. If the *Star Shooting Drill* was responsible for this change, then it would definitely be worthwhile for coaches to include in their practice routines.

When reviewing the results, a final point of interest is that every guard's individual game shooting percentage increased and every post player's shooting percentage decreased in the experimental group (see Table 1). Athletes numbered two, five, and six are primarily guards, while athletes one and four play underneath the basket. Athlete number three plays as both a guard and a post during contests.

As the *Star Shooting Drill* included both inside and outside shots, the researcher was somewhat puzzled by this data. After individually interviewing the participants in the drill, some light was shed on why this result may have occurred.

*Athlete Interviews*

When the experiment was complete, the researcher interviewed the athletes in the experimental group to discover their thoughts on the *Star Shooting Drill* and gain some qualitative support for the data collected. Three major themes emerged from the athlete's comments.

The first theme that quickly emerged was that the drill seemed to be **more appropriate for guards than post players**. All of the athletes in the experimental group felt this way, even though some inside shots were included in the drill. This is a sampling of athlete comments supporting this theme.

- “but we worked on swooshing shots, instead of using the backboard. That might have messed up the post players’ shots, because it is easier to make shots when you are under the basket by using the backboard.”
- “There were more outside than inside shots.”
- “There were only two post shots.”
- “To change it, maybe the drill could have more shots inside the lane, along with outside shots. Since post players, like myself, have to almost always do a drop step, or head fake, maybe we could have included those in the drill also.”
- “The drill only helped them if they were playing out on the wing.”
- “I think we should add post moves.”

The next theme that emerged was that the athletes **felt positive about the drill**, and they thought that it **improved** several aspects of their game, including their **confidence**.

All of the athletes stated that they would do the *Star Shooting Drill* again. Here are some comments that support this theme.

- “I wasn’t worried about missing all my shots. I felt more confident.”
- “I liked the *Star Shooting Drill*, because I think it helped my shot. I used to shoot with two hands, and I couldn’t make anything, but after shooting all those shots everyday, I fixed my shot.”
- “It made me jump higher. After shooting all of those jump shots and jumping to rebound for other people, I got used to jumping all of the time.”
- “I would do it again. It helped me a lot.”
- “I really liked it when we first started, and it seemed to be helping.”
- “I liked the drill we did. It helped my shot and my confidence. I think it was a good thing to do, and the whole team could do it to improve.”
- “I think the shooting drill helped with my jump shots. We really worked hard on getting off the floor before letting go of the ball. It was hard at first, but then, I got the hang of it.”
- “It helped make me quicker and more accurate.”
- “The drill made me not as nervous about shooting outside shots. I felt more comfortable shooting on those parts of the floor.”

The final theme that emerged was things that the athletes would recommend changing, before doing the drill again. Most of the athletes felt that a few simple **changes could be**

**made to make the drill better.** If the drill could be improved for post players, then the drill may have a positive impact on girls' game shooting percentages. Some suggestions by athletes for changing the drill are listed.

- “maybe add post moves”
- “If we would have started (doing the drill) earlier, we might have made more shots (in games).”
- “I would have more inside shots.”
- “We really didn’t get to work on shooting off of the dribble during the drill. That would help.”
- “I would have it so that every once in a while, you would use the backboard to make a shot. You would still swoosh some shots, but that way you would do both, and it would help post players and guards.”
- “Add post moves and post shots to the drill to help improve no matter where you are at on the floor.”

### *Implications*

Although the *Star Shooting Drill* did not prove to increase all athletes' game shooting percentages in this study, it did have some positive effects. Athlete's enthusiasm for and confidence in shooting a jump shot improved. With female athletes, this seems to be difficult to acquire; therefore, the drill has significant value to the researcher, as a coach.

Many valuable insights were gained by including a qualitative component to the study. With this knowledge, an improved *Star Jump Shooting Drill* maybe developed, and the improved drill may reach all athletes and help improve their abilities.

#### *Recommendations for Future Research*

There are several avenues for further research on the *Star Jump Shooting Drill*. Before altering the drill or the time frame it is completed in, the researcher believes that it would be beneficial to replicate the experiment with other junior high girls' basketball teams to see if similar results were acquired. It would also be beneficial to compare the qualitative themes that develop among different schools with different program expectations.

After replicating the experiment in different settings, the researcher would recommend further studies on using the *Star Shooting Drill* for a longer time frame. The junior high girls' basketball season is short, and it would be interesting to see what would happen if the girls used the drill faithfully during the off-season.

In addition, the researcher believes that the themes generated by the participants' comments are sound. Therefore, the researcher would recommend further studies on the *Star Shooting Drill*, after making some small changes to the drill itself. Adding shots off of the dribble, adding head fake moves, increasing the amount of post moves and inside shots,

and adding shots off of the backboard would be appropriate to research individually and in combination to get a true picture of the overall effect.

In conclusion, the researcher strongly believes in the value of an excellent jump shot for female athletes. Intrigued by the results of this study, the researcher is anxious to complete future studies on the topic with the next group of girls entering the junior high program. By trial and error, backed by solid research, a program for developing an excellent jump shot for female athletes may be achieved.

#### Resources

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## APPENDIX

### Experiment Permission Forms

Marietta College  
Human Subjects Review

#### **Long Review Form**

1. Name of researcher(s): Amber Noel Hanes

2. Principle investigator's phone number: (740) 374-4153      E-mail: noellie33@yahoo.com
3. Course name and number (if applicable): Education 640 / Research Methods
4. Instructor's name (if applicable): Bill Bauer
5. Title of Project: Perimeter Star Jump Shooting
6. Semester: Fall 05      Proposed start date: 9/23/05 or ASAP      Projected end date: 10/22/05
7. Type of research?      ☐ Faculty  
   ☐ Student honor's project  
   ☒ Graduate student project  
   ☐ Undergraduate student project  
   ☐ Class project  
   ☐ Other
8. Have previous research or pilot studies indicated any significant dangers or risks in the procedure being used?  
   ☐ Yes      ☒ No
9. Does this research involve active deception (i.e. misleading or false information) of subjects?  
   ☐ Yes      ☒ No

If you answered 'YES' to the above question, answer the (3) statements below.

9A - Explain the rationale for the deception.

9B - Explain how and when the subjects will be informed of the deception.

9C - Describe the expected reaction or consequences (immediate or long-term) that the deception may have on subjects. Include potential negative reactions.

10. Will any data from this investigation be confidential?  
   ☐ Yes      ☒ No

If you answered 'YES' to the above question, answer the (3) questions below.

10A - Who will have access to confidential information?

10B - How will confidential information be stored and protected?

10C - What will happen to confidential information after the study?

11. Briefly describe the general purpose of the research.  
The researcher will test a ten point, 100 shot jump shooting drill to see if it significantly increases junior high girl's individual shooting percentages during season games. The experimental group will participate in the drill for six days per week of one month. The control group will not participate in the drill.
12. Describe the types of procedures and tests to be used in the investigation.  
The girls in the experimental group will shoot 100 additional jump shots, six days per week for one month, from different predetermined spots on the basketball court.
13. Describe the method of data collection.  
Individual average shooting percentages will be calculated from the stats of the three most recent contests. This will be used as the pretest data. Individual average shooting percentages will be calculated from the stats of three games following the experiment on 10/22/05.
14. Explain the time frame of the study.  
The study will last one month, which is approximately the second half of the girl's junior high basketball season.
15. Describe how informed consent will be obtained or justify why it will not be.  
A parent permission form will be used. It is attached.
16. Describe how subjects will be recruited, any special requirements of the subjects, and criteria used for inclusion or exclusion of subjects.  
Six of twelve Newport Junior High Girls' Basketball players from the 2005 Season will be randomly selected as the experimental group. The other six players will be used as the control group.
17. Identify and describe the potential hazards (physical, psychological, ethical, social, economic, legal, etc.) of this type of study you have found in previous research.  
Site sources in APA style.  
There are no known hazards as a result of participation.
18. Assess and describe the potential hazards (physical, psychological, ethical, social, economic, legal, etc.) involved with your study and estimate their likelihood and seriousness.  
There are no known hazards involved with participation in this study.

19. Describe any procedures that will be employed to minimize potential hazards and give an assessment of their potential effectiveness.  
N/A
20. Identify the audience(s) to be reached in the report of the study.  
Girl's Basketball Coaches will be interested in the outcome of this study.
21. Identify the presentation method(s) to be used.  
It is likely that a Power Point presentation will be used to report the results of this study, in addition to hard copy handouts.
22. Indicate how and when subjects will be informed of the purpose of the research and how feedback will be provided.  
The participants will be informed of the purpose of the research before participating, and they will all be provided with a hard copy of the study's results.
23. Describe what you know about the ethical guidelines for treating human subjects within this field or discipline.  
Site sources in APA style.  
Parental permission / informed consent forms must be obtained for participants, who are minors (Bauer, 2005). Participants of the control group should be offered the treatment after the experiment if it is proven to be beneficial (Sibicky, 1999).
24. Additional comments.  
Since 12 to 14-year-old children will participate in this study, a parent permission form is attached and will be required for participation.
25. Attach the following: (if applicable)  
A. Informed consent form (in duplicate). (See form on the next page)  
B. Letters of permissions.  
C. Tests/surveys/ questionnaires.  
D. Additional items relevant to the study.

## Informed Consent / Parent Permission Form

Coach Amber Hanes will be conducting a study to determine whether a ten point, 100 shot jump shooting drill will have a significant positive impact on girl's individual shooting percentages during the second half of Newport's 2005 Season.

Girls involved in the experimental group will be asked to complete the ten point, 100 shot jump shooting drill six days per week for one month (9/23/05 – 10/22/05). This may be completed with Coach Amber after practice each day, and it will take approximately 15-20 minutes.

Girls involved in the control group will be asked to complete their regular practice requirements, and that is all.

Parents or guardians of girls involved in both the experimental and the control groups agree to allow their child's shooting percentage stats to be used in this research, and agree that this information may be shared with all participants in the study and presented in a research paper that will be available to the public. Athlete names will not be printed. Each girl will be identified on a nominal scale.

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Please check one.

☐ My daughter has permission to participate in the experimental group.

☐ My daughter has permission to participate in the control group.

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Parent Signature

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Date