

GOAL PROXIMITY AND ACHIEVEMENT MOTIVATION OF  
HIGH SCHOOL BOYS IN BASKETBALL SHOOTING SKILLS

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### ABSTRACT

The purpose of this study was to test the effects of goal proximity and achievement motivation on basketball shooting performance of physical education students. Data were collected on 79 male grade 10 students. One week prior to the beginning of a basketball unit, students were categorized as high achievers and low achievers based on their achievement score on the Howe Sport Behavior Assessment Scale. Within each achievement group, subjects were randomly assigned to either a weekly short-term goal group (20% of the possible improvement to an ideal score from their present score), a long term goal group (40% of the possible improvement to an ideal score from their present score by Trial 4), or a short-term-plus-long-term goal group. Subjects completed a Speed Spot Shooting Test (Hopkins, Shick, and Placek, 1984) once every week to measure their performance in relation to their assigned goal. No significant differences between goal setting conditions were found on Trial 1 and thus a  $3 \times 2 \times 4$  (Goal Proximity  $\times$  Achievement Motivation  $\times$  Trials) MANOVA was conducted. Performance results revealed no significant between-group differences. A postexperimental questionnaire revealed that a majority of students from all goal proximity conditions were setting their own short-term goals. Results are discussed in terms of Bandura's self-efficacy theory of motivation and the use of goals in motor skill tasks in physical education.

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***DEDICATION***

*To my Mother and Father  
for their love and support  
over the years.*

## CHAPTER I

### INTRODUCTION

Motivating students to achieve their potential in physical education has been a source of concern for teachers. The problem is compounded by the wide variation in achievement within classes. However, one technique which has been considered to be promising for motivating students of different abilities is goal setting.

Most of the research in goal setting has been carried out in industrial and organizational settings. It was influenced by the propositions of Locke (1966) who believed that an individual's conscious intentions regulate his or her subsequent actions. Specifically, Locke (1967) predicted that setting realistic but difficult goals would result in higher levels of performance than setting easy goals, no goals, or "do your best" goals. This was supported by a review of the research by Locke, Shaw, Saari and Latham (1981) who found that in 99 out of 110 studies from 1969 to 1980 specific, difficult, challenging goals led to higher levels of task performance than either "do your best" goals, easy goals or no goals. Despite extensive research in organizational and industrial settings, relatively few studies have been carried out in motor performance goal setting. Most of those reported have been carried out in laboratory settings and have demonstrated a positive effect for the use of goals to improve performance. However, future research needs to be conducted in more realistic field conditions to support the use of goal setting across the different motor skill tasks in physical education.

Among the few studies, Barnett and Stanicek (1979) found that a goal setting group of students achieved significantly higher scores than a non-goal setting group

in archery performance. These findings were repeated by Lee and Edwards (1983) who found that students who set their own goals or received assigned goals from their teacher improved their tennis skill in comparison to non-goal setting students. In contrast to these positive findings, no significant performance differences were found between goal setting and no goal setting groups in studies of juggling by Barnett (1977) and Hollingsworth (1975). It should be noted that juggling is not a typical activity in most physical education curricula.

One aspect of goal setting research which has not been investigated extensively is the relationship of goal proximity and task performance. Bandura and Simon (1977) attempted to determine the effect of short term goals in a study involving weight loss in patients. Subjects in their study who adopted short term goals obtained substantial reductions in weight loss compared to subjects who utilized only long term goals. Similarly, the problem solving skills of children in mathematical tasks were improved by the setting of short term goals (Bandura and Schunk, 1981). These findings were questioned by Kirschenbaum (1985) because of the confounding of treatment conditions. Specifically, they considered that the short term goal groups also utilized personal long term goals determined from the performance feedback from completing the task.

A further area of interest in the sport and motor performance research, has focused on the role of achievement orientation in goal setting. Ostrow (1972) found that competitive handball players who were determined to be low and high achievers differed in performance at the initial stage of motor skill performance only. The relationship between goal setting behavior and achievement need was greater during preliminary performance, but decreased as goal setting behavior

became more influenced by actual performance. In a study by Savage (1985) of swimmers, no performance differences occurred between low and high achievement swimmers when goals were either "hard" or "moderate" in difficulty. However, the results of this study indicated that high achievers benefited more from receiving a series of short term performance goals than did low achievers.

### Purpose

The amount of empirical support for the superiority of specific, difficult goals than either "do your best" goals, easy goals, or no goals is extensive. However, due to the few empirical investigations in goal proximity in field settings it has been suggested that further research should examine the effectiveness of different goal proximity conditions in a physical education class setting. The study tested the effectiveness of presenting students with teacher-assigned goals. In order to allow for the wide range of abilities within the class, the goals were determined by calculating the students' potential for improvement to a predetermined ideal score. In summary, the study examined the difference in performance between goals of different proximity. A secondary purpose of the study was to determine if goals are equally effective for low and high achievers throughout the three goal conditions.

### Definitions

The following definitions were used in this study:

1. A *goal* refers to a specific standard of proficiency on a task, usually within a specified time limit (Locke, *et. al.*, 1981, p. 145).
2. A *short term goal* refers to a weekly goal (20% of the potential of improvement to an ideal score) based on the student's performance achieved during the testing trial.
3. A *long term goal* refers to the final goal (40% of the potential of improvement to an ideal score) based on the student's performance achieved during the testing trial.
4. *Achievement motivation* "deals generally with the need for competition with a standard of excellence accompanied by the realization that the consequences will either be success or failure." (Alderman, 1974, p. 204).
5. *High achievers* were subjects who scored above the overall student mean of 50.39 on the Howe Sport Behavior Achievement Subscale.
6. *Low achievers* were subjects who scored below the overall student mean of 50.39 on the Howe Sport Behavior Achievement Subscale.

## CHAPTER II

### REVIEW OF THE LITERATURE

The review of literature is organized as four sections. The first of these examines the theory of goal setting, the second considers the use of goal setting with motor skill tasks, the third discusses research in goal proximity, and the fourth examines achievement theory and goal setting.

#### The Theory of Goal Setting

The interest in goal setting as a motivational technique originated from the early work of Kurt Lewin and his graduate students in Germany (Gardiner, 1940). At that time most of the work was included under the term "level of aspiration". This term was introduced to the literature by Dembo (1931) and defined by Frank (1935) as "the level of future performance in a familiar task which an individual, knowing his level of past performance on that task, explicitly undertakes to reach" (1935, p. 119). Hoppe (1930) is credited with first examining experimentally the concept of level of aspiration. His research and that of Dembo (1931) revealed that the degree of a person's satisfaction or dissatisfaction associated with performance on a task was related to an individual's personal level of aspiration. People who explicitly stated their aspirations were unsure of the difference between ideal and momentary goals. The ideal goal was what the person hoped to attain some time in the future and the momentary goal represented what could be achieved presently because of the apparent unobtainable goal.

The level of aspiration studies by Lewin, Dembo, Festinger, and Sears (1944) were concerned with this momentary or action goal. These action goals were influenced by the relative strength of three basic needs: 1) the need to make the level of aspiration approximate the level of future performance as closely as possible; 2) the need to keep the level of aspiration as high as possible regardless of past performances; and 3) the need to avoid failure. The level of aspiration represented a compromise between a person's evaluation of their ability and their desire to do well.

In the level of aspiration studies there are two types of discrepancy scores: 1) goal discrepancy, which refers to the difference between a person's level of aspiration and his past performance, and 2) attainment discrepancy, which is the difference between the level of aspiration and subsequent performance. Goal discrepancy provides information on how confident a person is and whether the individual is oriented toward success or not. Attainment discrepancy indicates how accurate the individual is in their evaluation of both their ability and their aspirations.

The early studies of "level of aspiration" and the use of goals in industrial settings led to the studies of goal setting on task performance. Extensive reviews have summarized the research involving the relationship between goal setting and task performance in organizations and on various laboratory tasks (Locke, Shaw, Saari, and Latham, 1981; Locke and Latham, 1984). Essentially they reported that difficult challenging goals led to higher levels of performance. These results were found in a variety of laboratory studies using arithmetic tasks (Latham and Steele, 1983), prose learning (Laporte and Nath, 1976), perceptual speed (Mento, Cartledge, and Locke, 1980) and anagrams (Rothkopf and Kaplan, 1972). The

findings were replicated in field studies using logging crews (Latham and Locke, 1975) and typists (Yukl and Latham, 1978). In all, Locke *et al.* (1981) reviewed 110 studies and reported that in 99 of these studies specific, difficult, challenging goals led to higher levels of task performance than "do your best", easy goals, or no goals.

According to Locke *et al.* (1981), goal setting affects task performance primarily as a motivational mechanism. The direction, effort, and duration of a behavior are all affected by goal setting. Goals for individuals assisted in directing their attention to change the specific behavior. For example, improved basketball shooting performance will occur because the student is directed by the goal to practice the skills necessary to reach a new performance level. As a consequence of the goal, greater effort results as the individual perceives the demands of completing the intended goal. Persistence, a focused effort over time, increases to improve shooting skills as a direct result of the use of a goal. In addition, an indirect result is the development of strategies or action plans for attaining one's goals. Correct strategies or actions to change behavior are necessary for goals to have a positive affect on task performance. In summary, Locke *et al.* (1981) considered that there are four mechanisms by which goals affect task performance: by directing attention and action, mobilizing energy expenditure or effort, prolonging effort over time (persistence), and motivating the individual to develop relevant strategies for goal attainment.

### **Goal Setting and Motor Skill Performance**

In endurance tasks, the effectiveness of goal setting is well documented. Nelson (1978) revealed that subjects who used goal setting techniques in an elbow flexion

endurance task significantly outperformed subjects in a control group who were told to do their best. High school boys who publicly stated their goals in a 450 meter run were compared to other boys who set private goals, or no goals (Wankel and McEwan, 1976). Analysis of covariance, with initial running time as the covariate, demonstrated that there was a significant treatment effect in favor of the public goals group ( $p < .05$ ) over both a "do your best" group and a private goal group. However, the performance of the "do your best" group and private goal group did not differ significantly.

Botterill (1977) evaluated the effect of goal explicitness, goal source, and goal difficulty on a simple dynamic hand grip contraction endurance test. By manipulating goal explicitness, goal source, and goal difficulty, significant changes in average retest performances on the task were observed. Performance by subjects who had set explicit goals by group consensus was superior to both self-set goals and experimenter-set goals.

In a study by Bandura and Cervone (1983), the motivational effects on performance were evaluated by a comparison of different goal systems on a bicycle ergometer endurance task. Twenty university students, equally divided by gender, were randomly assigned to each of four treatment conditions: (a) performance feedback and goals, (b) goals only, (c) performance feedback only and (d) no goals and no performance feedback. Results indicated that goals enhanced performance effort only under conditions combining a personal standard (goal) with performance feedback of progress toward it. Furthermore, neither goals alone nor performance feedback alone, affected change in performance effort. The authors concluded that when performance feedback was combined with a standard of comparison, the higher the self-dissatisfaction with a substandard performance and the stronger the

perceived self-efficacy for goal attainment, the greater was the subsequent intensification of effort.

Weinberg, Bruya, and Jackson (1985) examined the effectiveness of short term, long term, and short term plus long term goals in performance of the 3 minute sit-up test. Ninety-six subjects were matched on ability and randomly assigned to one of the following conditions: (a) short term goals, (b) long term goals, (c) short term plus long term goals, and (d) "do your best" goals. Experiment 1 subjects were tested once a week for five weeks and Experiment 2 subjects were tested once a week for three weeks. Experiment 2 was conducted in three weeks to make a 20% improvement a more difficult, challenging goal than the previous 5 week period. Short term goal setting subjects had an assigned weekly goal of 4% of a 20% long term goal based on previous pilot studies. Long term goal setting subjects were only given the end goal of a 20% improvement. The results from both experiments revealed no significant difference between groups. The researchers concluded that these non-significant results were likely due to the subjects setting their own personal goals in addition to the experimenter-set goals. Goal setting effects were also minimized by the subjects' initial high level of motivation, which were advanced by the coercion situation inherent in the experiment.

Performance on a hand dynamometer was utilized by Hall, Weinberg, and Jackson (1987) to examine the relationship between goal difficulty, goal specificity, and endurance performance. Following completion of the task to hold a one-third contraction for as long as possible, subjects were randomly assigned to one of the following goal setting conditions: (a) do your best, (b) improve by 40 sec., or (c) improve by 70 sec. Subjects were provided with either concurrent or terminal feedback. Both the 40 sec. and 70 sec. goal groups exhibited significantly more

improvement than the "do your best" group. No significant differences were found between the two feedback groups' performances. However, subjects did indicate a preference for concurrent feedback as an adjunct to goals.

The question of what effect will unrealistically high goals have on performance in a physical education activity setting when compared to more realistic goals was addressed in a study by Weinberg, Bruya, and Jackson (1987). Two experiments involving situps were conducted to test this question. In the first experiment, 30 subjects were randomly assigned to an easy, moderate, or extremely hard goal condition over a five week period. In the second experiment, 123 subjects were randomly assigned to an extremely hard, highly improbable, or a "do your best" goal condition, using the same task involving situps. In both experiments, no significant differences between the goal conditions were indicated. These results added further support to laboratory studies from the industrial and organizational literatures which have also found no deleterious effects of unrealistically high goals on performance. Although these studies support research involving tasks of a relatively short time period, further empirical research is needed to test this prediction in various tasks of longer time periods.

The effects of goal proximity and goal specificity on situp performance of primary grade children was conducted by Weinberg, Bruya, Longino, and Jackson (1988). Over the course of a ten week study students were randomly assigned to one of the following goal setting conditions: (a) short-term goal improvement of 4% on each test trial, (b) long-term goal of 20% improvement over the course of the 10-week study, (c) short-term-plus-long-term goal, and (d) do your best. On scored tests once every two weeks, no significant differences were reported between Trials 1 and 2, but on Trials 3, 4, and 5 the specific goal groups performed

significantly better than the "do your best" group. A post-experimental questionnaire revealed that the students were highly committed to reaching the goals. Although there has been consistency in studies supporting the use of goals in endurance tasks, equivocal results have been obtained with the use of goal setting in motor skill tasks. Locke and Bryan (1966) found differences in favor of goal setting when they asked subjects to match red-light patterns on the "Complex Coordination Apparatus" using foot pedals and a jog stick. This motor task required coordination similar to the action that airline pilots use in controlling their planes horizontally and vertically by foot pedals and "stick". Half of the subjects were assigned to the "standard" condition (goal setting) and given specific performance goals or standards to beat on each trial. The subjects were told that by surpassing the above average performance for college students this would constitute successful completion of the task. The subjects in the no goal setting condition were told at the beginning of the first experimental trial "to do their best" on every trial, and were not given their total scores or any standards. Only subjects in the goal setting condition were given their scores on each trial and their standards for next trial. This experimental difference between the groups may have contributed to the differences between the two groups. Subjects with specific goals performed better than those told to "do their best". When the total performance period of 10 minutes was divided into 5 segments of 2 minutes the data suggested that goal setting also increased the intensity of effort at all points in the trial as well as prolonging effort. This research by Locke supported his proposition that an individual's conscious intentions regulate his or her subsequent actions.

In a field study, Barnett and Stanicek (1979) investigated the effects of goal

setting in teacher-led group conferences on achievement in archery. Over a ten week unit, 30 university students were randomly divided between a group conference with goal setting and a group conference without goal setting. At the conclusion of the unit, the subjects directed by the teacher to set specific numerical and verbal goals had significantly higher scores than subjects who set no goals.

Burton (1983) implemented a five month training program in which swimmers set performance as opposed to outcome goals. Winning a race or meet is an example of an outcome goal. A performance goal specifies a time to obtain as the goal regardless of the outcome of the race or competition. Swimmers who participated in the goal setting training program learned to focus highest priority on performance goals and those swimmers high in goal setting ability demonstrated better performance. Swimmers were determined to be high in goal setting ability by demonstrating more performance related achievement orientations than outcome goals. In addition, swimmers who utilized goal setting had better self-confidence, lower state anxiety and were found to be more motivated than swimmers who did not use goals in their training.

Although these studies supported Locke's (1966) predictions, the effectiveness of goal setting has not been consistent in studies utilizing different motor skill tasks. Barnett (1977) conducted a study of the effects of goal setting involving grade 9 and 10 physical education students. The task of three ball juggling was selected as the dependent variable. Subjects who set specific numerical and verbal goals did not significantly improve their performance over the no goal setting groups.

In a junior high school setting, Hollingsworth (1975) investigated the effects of performance goals on learning a two-ball, one hand juggling task. No significant differences were found between subjects in a verbal encouragement group who were

told to "do your best" and subjects who set goals based on various trials.

The authors of these studies suggest that these conflicting results were probably due to the subjects in the control groups setting goals based on their knowledge of results. There was also some question whether the difficulty of the goals was sufficient to have a significant motivating effect upon the participants. In a novel task such as juggling, subjects had no standard of reference to evaluate their performance which may have prevented them from setting realistic goals.

Further research is necessary in field settings to determine if specific difficult goals will contribute to improved motor skill performance. Continued use of goal setting techniques in these settings may enable researchers to identify what task characteristics and individual personal characteristics contribute to the positive effects of goal setting. In addition, evidence may be obtained that will identify the specific conditions that are not conducive to the use of goals for improving performance.

### **Proximal Goal Setting**

Empirical research has been unable to establish the superiority of either short term or long term goals. Locke and Bryan (1967) conducted a study to determine the level of performance and boredom of subjects in a 2 hour simple addition task which used either specific goals (intermediate or end goals) or "do your best" goals. The evidence suggested that specific goals increased interest in the task as compared to "do your best" goals. There was no significant difference in interest between the long term and short term goal groups. However, the subjects who utilized four short term goals (four evenly spaced markers in a box of problem cards and a long term

goal in the back of the box) during the 2 hour period did not complete as many questions as the long term goal group (a goal indicated by a marker in the back of the box containing the problem cards). The short term goal group's performance was between that of the long term goal group and the "do your best" group.

Locke and Bryan (1967) suggested that the short term goals may have actually slowed the pace of some of the subjects. The experimenters felt that some of the subjects utilized the short term goals as limits rather than as minimum guidelines, trying to increase their speed if they were behind, maintaining their pace if not. This evidence suggested that utilizing short term goals in a task should depend on the length of time to complete the task. Locke and Bryan concluded that as the task time increases, the effects of specific goals seem to increase in effectiveness during the later stages of task completion.

Bandura and Simon (1977) examined the effects of short term goals to reduce the amount of food consumed in an experiment involving obese subjects. Subjects who employed goal setting adopted either long term goals defined in terms of weekly goal limits or short term goals specified by goal limits by four time periods during the day. Statistical analysis revealed no significant difference in weight loss between long and short term goal setting conditions. However, inspection of questionnaire data at the conclusion of the study indicated that subjects in the long term goal condition set additional short term goals for themselves. It was found that subjects who followed their long term goals only achieved smaller reductions in eating behavior. In contrast, subjects in the long term goal condition who set themselves short term goals matched the achievements of the group originally instructed in short term goals.

Kirschenbaum (1985) has been critical of the interpretation of the results of the

Bandura and Simon (1977) study. He believed the support of short term goals, by themselves, is still in question because the short term goal group also utilized long term goals. Bandura (1981) has argued that comparison of a long term goal with short term goals versus long term goals alone is unnecessary. In his hierarchical goal system, the long term goal is required to provide some purpose and direction to the short term goal. It is Bandura's contention that the short term goal provides information of the self-efficacy of obtaining the long term goal.

The literature has produced results that support the use of long term goals over short term goals for some types of tasks. In a study of adult weight control, Kencey (1983) found evidence to support the use of long term weekly goals in comparison to daily short term goals. Subjects who received the moderately specific weekly plan lost significantly more weight than the daily group in an eight week period and in a sixteen week follow up analysis. However, due to a high attrition rate in this study, the external validity of the findings is suspect.

Kirschenbaum, Humphrey, and Mallet (1981) found support for the claim that moderately specific and relatively distal goals are superior to shorter term goals. In an 11 week study improvement program, college students were randomly assigned to one of three study improvement plans: daily (highly specific) goals, monthly (moderately specific) goals, and no goals. All groups received self-control and study skills techniques. Results indicated that monthly planning increased study time and improved study habits compared with the no goal comparison intervention. This result was contrary to the prediction that daily planning would increase study habits the most. The authors believed that the monthly goal group, by using a more general study schedule, could effectively respond to their own fluctuating interests and to unexpected physical and social demands on the use of their time.

Bandura and Schunk (1981) used a mathematics task which appeared to support the use of short term goals. They assigned children ( $M = 8.4$  years, showing gross deficits and lack of interest in mathematical tasks) to one of the following conditions: no treatment (control), no goals, long term goals, and short term goals. The children in the three experimental groups worked for seven 30-minute daily sessions on subtraction problems that were difficult for them (pretest performance ranged from 0 to 16% correct). In the short term goal condition, the experimenter "suggested that subjects might consider setting themselves a goal of completing at least six pages of instructional items each session" (p. 589). For the long term goal group, subjects were advised before the first session to set a goal of completing all 42 pages (258 problems) by the end of the seventh session. The no goals group was told "to complete as many pages as possible as they went along" (p. 589). Finally, the control group was given no goals, nor were they exposed to any instructional material. The short term goal students when compared to the long term goal group completed more material (74% vs. 55%) at a faster pace ( $M$  pages per lesson completed = 29 vs. 21)(both  $p < .10$ ). In addition, only the short term goal subjects out-performed the no-goal and/or no treatment subjects on the measures of progress and on measures of performance, self-efficacy, and intrinsic interest. However, the short term goal group were probably the only ones who obtained feedback concerning their progress. The authors noted "children could not transform distal into proximal self-motivators because not knowing how to divide they could not partition the entire instructional enterprise into equivalent subunits" (p. 595). Therefore, only children who received short term goals could evaluate their progress. The long term goal setting subjects probably did not obtain adequate feedback about their ongoing performance.

A close relationship between goal setting and feedback appears to exist because short term goals can serve as a "feedback device" and therefore facilitate performance (Locke, *et. al.*, 1981). Bandura (1982) has suggested that "self-motivation is best summoned and sustained by adopting attainable subgoals that lead to future goals" (p. 123). The results of the Bandura and Schunk (1981) study tend to reaffirm the importance of feedback for efficacy of goal setting despite the absence of equivalent amounts of performance feedback in the comparison and control groups.

Manderlink and Harackiewicz (1984) completed a study to examine the effect of goal proximity on intrinsic motivation when initial task interest was high. Sixty-six female university students were assigned either short term or long term performance goals, or were not provided with goals, prior to completing a series of enjoyable word puzzles. Results indicated that long term goal setting enhanced subsequent intrinsic motivation relative to short term goals or no goals conditions. However, short term goal setting, produced more positive goal attainment expectations over the course of task engagement. Short term goal subjects also perceived themselves as somewhat more competent following task completion compared to those in the no goals control group. When the performance of the subjects was covaried, short term goal subjects perceptions of competence were also higher than those of long term goal subjects. Overall the findings indicated that perceptions of self-efficacy were more positively affected by short term goals than long term goals, particularly during task engagement. This evidence supported Bandura's (1982) assertion that the informational advantage of short term goals is important in the development of ongoing efficacy expectations.

Manderlink and Harackiewicz (1984) attempted to determine the effect of goal

proximity on individuals who reported to be either extrinsically or intrinsically motivated to complete a word puzzle. They concluded that short term goal setting could be seen as an extrinsic motivator and, therefore, undermine intrinsic motivation relative to long term goals. However, support for the use of short term goals was considered in transforming extrinsic to intrinsic motivation. Long term goals were determined to be better at maintaining or enhancing pre-existing intrinsic interest. These findings may have implications for participative goal setting techniques to offset the negative, controlling effects of short term goals, and enhance the benefits of more long term goals (Kirschenbaum and Humphrey, 1981). However, previous research has produced equivocal results regarding the superiority of assigned versus participatively set goals (Latham and Yukl, 1975, 1976; Dossett, Latham, and Mitchell, 1979; Latham and Saari, 1979; Garland, 1983).

In a physical education setting, weekly goals were used by one group of students in a ten-week archery instruction unit in a field experiment by Barnett and Stanicek (1979). Beginning archery students were randomly assigned to a goal setting group and a control group without goals. Classes met twice a week for 50 minutes. The teacher "directed" the goal setting subjects to set individual verbal and numerical goals at the end of each weekly 10-minute conference period using a printed goal sheet. Non-goal setting students were not asked to set any goals and were not given the printed goal form. Both groups completed three tests of archery shooting: the initial test during the first week, the "progress" test during the sixth week, and the final test during the tenth week. The overall means for both groups were obtained by averaging the "progress" and "final" tests for each subject. After allowing for individual differences between the two groups, the effect of goal setting was significant ( $p < .05$ ). Unfortunately, no comparison could be made to a long

term group because of the design of the study. Goal setting facilitated the performance of the archers but the effectiveness of goals of different proximity could not be determined. Weinberg, Bruya, and Jackson (1985) examined the importance of goal proximity on the performance of a three minute sit-up test. Subjects enrolled in a university fitness class were matched on sit-up performance and then randomly assigned to one of the following conditions: (a) short term goals, (b) long term goals, (c) short term plus long term goals, and (d) "do your best" goals. In two separate experiments, subgoals were tested once a week for either five weeks or three weeks. The short term goal group was assigned weekly goals and the long term goal group had an assigned final goal. No significant difference in performance between the goal conditions was apparent. These results were attributed to the subjects in all conditions setting their own goals in addition to their experimenter-set goal. The authors also stated that the motivational aspect of goal setting was negated by high levels of motivation. Consequently, the addition of a specific goal may not have resulted in more motivation to work any harder.

A recent investigation by Weinberg, Bruya, Longino, and Jackson (1988) tested the effects of goal proximity and goal difficulty on the performance of primary-grade boys and girls. One hundred and thirty boys and one hundred and twenty-five girls in grades four, five, and six were matched on a baseline performance of a 2 minute situp test and then randomly assigned to one of the following goal setting conditions: (a) short-term goal improvement of 4% of each test trial, (b) long-term goal of 20% improvement over the course of the ten week study, (c) short-term plus long-term goal, and (d) do your best. Over five testing periods, a significant goal-condition by trials interaction revealed no differences between the goal setting groups on Trials 1 and 2; however, on Trial 3 the long term

( $M = 87$ ) and long-term-plus-short-term ( $M = 85$ ) goal groups performed significantly better ( $p < .05$ ) than the "do your best" group ( $M = 75$ ). On Trial 4 all three groups performed significantly ( $p < .05$ ) better than the do your best group. Finally, on Trial 5 the three goal groups out-performed the "do your best" group, although the differences were only marginally significant ( $p < .09$ ). There were no significant differences between the short-term, long-term, and short-term-plus-long-term goal conditions. These authors noted that it was not their intent to prevent the children from setting short term goals on their own. They believe that short term assigned goals are unnecessary because children will probably set their own short term goals.

An important variable that effects the use of goals is the duration of the task. The length of time between when the goal is determined and when it is hoped to have been achieved is an important factor. Goals that are too specific and short in amount or duration may inhibit improvements in performance. Many of the findings suggested that rigid goal setting strategies can prove to be unsuccessful for performance improvement (Locke and Bryan, 1967; Kirschenbaum, *et al.*, 1981; Kinsey, 1983). Further research is required to determine if proximal subgoals can enhance the performance of motor skill tasks. Evidence in support of the increasing effect of goals during the final stages of task completion was presented in the Bandura and Stanicek (1979) study. Further analysis showed that the significant difference between the groups was due to the difference between them on the final test, whereas there was no difference between the groups on the "progress" test. This evidence supports the claim that goal setting becomes more important with the increasing length of time for the task performance. It has been suggested that the increasing effect of goal setting coincides with the decreasing "novelty effect".

Further, the "novelty effect decreases with the length of task performance while the goal setting effect increases as a function of the length" (Iso-Ahola and Hatfield, 1986, p. 143). Future empirical investigations are required to determine if goal setting increases task motivation and performance during the later stages of experimental tasks.

One of the problems encountered in reviewing the literature on goal proximity is the continuous dimension of proximity. Some studies involved tasks over the course of a brief laboratory experiment (e.g., Locke and Bryan, 1967; Manderlink and Harackiewicz, 1984), whereas others involved extended periods of many weeks or months (e.g., Bandura and Simon, 1977; Kirschenbaum *et al.*, 1981). Yet for any given task in a study goals can vary on the dimension of proximity. The variation of this dimension makes comparisons of short and long term goals across studies a problem. Some caution should be exercised in interpreting the results of previous research due to the limited number and type of studies conducted. Further studies in field settings are required to determine if proximal goal setting is superior to more distal goals in improving performance in a variety of different tasks.

## **Achievement and Goal Setting**

### **Achievement Motivation**

Early experimental research by Murray (1938) suggested that humans are motivated by primary needs or states of deprivation. In an attempt to further their understanding of motivation McClelland and his associates (McClelland, D.C., Atkinson, J.W., Clarke, R., and Lowell, E.L., 1953) developed an achievement theory of motivation. The initial research on achievement motivation was primarily

based on the results of the Thematic Apperception Test (TAT) in which subjects were classified as relatively high and low in need for achievement. The need for achievement was determined by the frequency of their imaginative responses demonstrating a concern over performing well in relation to some standard of excellence (Atkinson, 1974, p. 13). From this initial work other major contributions to the theoretical development of achievement motivation followed at periodic intervals (McClelland, 1955, 1961; Atkinson, 1957, 1964; Atkinson and Feather, 1966; Atkinson and Raynor, 1974, 1978).

Achievement motivation occurs when an individual believes that their performance will be evaluated in reference to some standard of excellence. In achievement situations there are motives and situational variables operating. The situational variables are described as expectancies and incentives. In any given situation the expectancy variable is an anticipation that the behavior will be followed by some consequence. The incentive variable is represented as "the relative attractiveness of a specific goal that is offered in a situation, or the relative unattractiveness of an event that might occur as a consequence of some act" (Atkinson, 1957, p. 360).

Atkinson's (1964) theory of achievement motivation assumed that all individuals had both a motive to achieve success ( $M_s$ ) and a motive to avoid failure ( $M_{af}$ ). In other words, all humans had the ability for interest in achievement and some capacity for anxiety about failure. The total strength of tendency to approach a specific achievement situation ( $T_a$ ) was expressed as an algebraic sum of the tendency to approach success ( $T_s$ ) and the tendency to avoid failure ( $T-f$ ). Atkinson added the motivational factors described as extrinsic motivation ( $T_{ext}$ ) to represent other motives, that may contribute to an individual's tendency to perform

a specific activity. The resulting equation was:  $T_a = T_s + T-f + T_{ext}$ .

Atkinson (1964) discovered that high achievers prefer tasks of intermediate difficulty (i.e., probability of success is .5) and avoid easy or difficult tasks. Such tasks are perceived as demanding and their outcome will depend on one's effort and persistence. Conversely, low achievers avoid tasks of intermediate difficulty where their arousal of anxiety about failure is greatest because their skill level is being most tested. Low achievers also prefer easy tasks where success is assured or extremely difficult tasks where failure is certain.

In an attempt to explain achievement motivation and performance of tasks in every day situations Atkinson and Raynor (1974) investigated the effects of success and failure on an individual's future achievement oriented behaviors. Raynor (1978), in a modification of Atkinson's achievement theory, stated that individuals who are primarily motivated to achieve ( $M_s$ ) and individuals who are primarily motivated to avoid failure ( $M_f$ ) are aroused as a function of both expectancy of success on immediate goals and also the expectancy of success on all consequences following the immediate goal, such as future related goals.

Raynor (1978) distinguished between whether a goal is a single goal or whether it is part of a series of related goals. He believed that a current goal may be one of three types; first it may have no relation to future goals and hence have no implications for future achievement striving; second, it may be a part of a series of independent steps in a path towards a long term goal (a non-contingent goal path) where again performance on the immediate goal will have no influence on subsequent performance toward other goals; third, it may be a part of a series of goals where performance on the immediate goal will influence the potential to achieve success (or avoid failure) on subsequent goals (a contingent goal path).

According to Raynor's modified need for achievement theory, Ms persons prefer easy or moderate goals on the immediate step of a contingent path but they prefer moderate goals on non-contingent paths. Mf persons prefer hard goals on immediate steps on contingent goal paths and either hard or easy goals on non-contingent paths.

Raynor believed that long contingent paths tend to emphasize an individual's characteristic achievement motivation: those high in achievement motivation ( $M_s > M-f$ ) "become increasingly more motivated to do well as the length of the contingent path increases, while those low in achievement motivation ( $M-f > M_s$ ) become even more inhibited as the length of a contingent path increases" (Raynor, 1974, p. 131).

Research designed to test this hypothesis has been supportive (Raynor and Rubin, 1974). Birrell (1978) suggested that this might explain why some athletes "cut themselves" from sport. Similarly, Birrell felt that "one might expect significantly higher levels of achievement motivation in those athletes who manage to reach the elite status" (Birrell and Donnelly, 1978, p. 48).

### Incentive Motivation

An examination of Clark L. Hull's (1943) theory that an organism's anticipatory goal reaction could be considered as an effective determinant of action by Hull (1952) and later Spence (1956) led to the development of an expanded theory. This theory included the "anticipation" or "expectancy" of a goal as one of the fundamental determinants of action. They introduced the amount of incentive (K) into the original equation,  $E = f(D) \times f(H) \times (K)$ , resulting in the term incentive motivation.

Birch and Veroff (1966) later developed a paradigm of human motivation in which seven incentive systems were to account for most of an individual's recurrent behaviors. These seven incentive systems were: sensory, curiosity, affiliative, aggressive, achievement, power, and independence. Birch and Veroff (1966) believed that an individual is faced with a number of choices of courses of action and the selection and persistence of an action takes place because of the kind of incentives that are attractive at a particular moment in time, and the values that are attached to them by an individual. Consequently, although all seven systems do operate at the same time, some are more important to an individual depending upon the situation involved.

A general class of consequences which act to encourage or discourage an individual from a particular behavior is called a motive. Individuals are thought to differ in their strength of a particular motive. Birch and Veroff (1966) described the function of motives by stating:

Motives are modifiers of incentives — that is, if the incentive value of a given consequence is of a certain absolute strength, it will be more attractive to a person with a high motive for that consequence, and less attractive to a person with low motive for that consequence. (p. 8)

The basic premise of the Birch and Veroff (1966) paradigm is that they assumed a principle of action which held that within any individual, at any given moment of time, there exists a number of competing behavioral tendencies toward relatively independent courses of action. When an individual is motivated to act, it

is the strongest of these number of competing tendencies that wins out and is expressed in overt behavior.

In summary, the activities that an individual engages in are influenced by the particular situations (availability); what the individual expects to derive from the activities (expectancy); the various incentive values that the individual attaches to the activities (incentive); and the individual's basic motives underlying these activities (motive) (Birch and Veroff, 1966). These determinants were identified as sources of goal directed behavior. Birch and Veroff (1966) did take into account the fact that although the environment of the individual shapes courses of actions, the characteristics of the organism itself modify environmental inputs.

According to the incentive motivation model, the achievement incentive system is "defined by a goal activity centering on successful competition with standards of excellence applied to an organism's performance" (Birch and Veroff, 1966, p. 56). The achievement incentive occurs when the individual performs a task better than a previous occasion or better than some external standard. The strength of the achievement incentive is dependent upon the difficulty the task a person accomplishes.

### **Achievement Motivation and Goal Setting Behavior**

Lewin *et al.* (1944) analyzed goal setting studies on the basis of their expectancy-value model. In his model, it was proposed that subjects set the goals in that region where the sum of weighted valences of success and failure is maximal. This maximum occurred when the probability of success was less than .50. The subjects would set goals that were a little higher than the last goal reached. By applying this principle to goal setting scores, the subjects subsequent goal would be

higher than the previous score. Lewin *et al.* described how this would lead to a positive discrepancy. This discrepancy occurs when the new goal is higher than the previous goal selected. Atkinson (1957) believed that positive goal discrepancy occurs when success-motivated subjects over-estimate their objective chances of success. These subjects choose goals with less than .50 objective probability of success. Failure-motivated subjects are thought to avoid this area of difficulty by setting very high or very low goals.

These results were supported by Moulton (1965) who demonstrated that success motivated subjects, compared with failure motivated subjects, tended to set moderate goals. Similarly, Raynor and Smith (1966) found that failure motivated subjects show greater variation in their goal discrepancies than do success motivated subjects. Most studies based upon achievement motivation theory have confirmed the hypothesized relationships of motive to task choice, persistence, and behavioral intensity (Atkinson and Feather, 1966; Atkinson and Raynor, 1974; De Charms and Dave, 1965; and Raynor and Smith, 1966).

Studies of motor performance and achievement need have found that high achievers generally perform better than low achievers (Healey and Landers, 1973; Ostrow, 1976; Roberts, 1972; Ryan and Lakie, 1965), but there is some evidence that better performance only occurs in initial trials (Healey, *et al.*, 1973; Ostrow, 1972; Carron, 1980). The lack of performance differences during later trials supports achievement motivation theory which claims performance differences between high and low achievers are eliminated after initial trials in tasks which are perceived as stable in difficulty (Roberts, 1982). These performance differences disappear because both high and low achievers reassess the probabilities of success after each attempt at the task.

In a recent study with collegiate swimmers, Savage (1985) conducted a number of studies to test Locke's theory of goal setting and Raynor's modified achievement theory. These theories both predict that setting "hard" performance goals will produce different performance than setting "moderate" performance goals. For Locke this always implies superior performance for goals while for achievement theory, the goal which will produce superior performance depends on the "motivational set" of the performer. Results indicated that no difference at all in performance occurred between persons who set "hard" or "moderate" goals. Savage attributed this result to a lack of goal acceptance by the subjects and that they were unable to appreciate adequately the level of difficulty of the goal set.

In addition, Savage (1985) examined the predictions based on achievement theory, particularly "motivational set" and goal context within contingent and non-contingent goal paths. Results indicated that these factors were important determinants of performance and, therefore, supported Raynor's modified achievement theory. Savage concluded that current goals should be set in the context of prior success or failure experience, and that the degree to which a series of goals will enhance performance is dependent on individual differences in "motivational set". High achievers will benefit more from a series of achievement orientated performance goals than low achievers.

### **Hypotheses**

To fulfill the purposes of the study, the following hypotheses were tested:

**Hypothesis 1.** There will be no significant difference between the performance of short term goal (weekly), long term goal (a final trial goal), and the short term

goal plus long term goal groups.

**Hypothesis 2.** There will be no significant differences between the performance of low achievers and high achievers in the short term goal, long term goal, and the short term goal plus long term goal groups.

## CHAPTER III

### RESEARCH METHODS

This chapter reports the research methodology and procedures employed in the study. The selection of subjects, variables, limitations, data collection, instrumentation and statistical analyses are presented.

#### Selection of Subjects

One hundred and fifteen male students from five grade ten physical education basketball classes at Harry Ainlay High School in Edmonton, Alberta volunteered to participate in the study. All classes were taught by the same teacher who has instructed basketball at the high school level for 23 years. Each student was provided a parent consent form and informational letter informing the students and parents of the nature of the study. Absenteeism (truancy, field trips, injuries) reduced the initial sample size to 79 students who completed the Howe Sport Behavior Assessment Scale and all four of the SSST trials.

Students were categorized as high achievers and low achievers based on their achievement score on the Howe Sport Behavior Assessment Scale (HSBAS). Within each achievement group, subjects were randomly assigned to either a short term goal group (established each week), a long term goal group (a final test trial goal), or a short and long term goal group (a 1 week goal and a final test trial goal).

## **Variables**

### **Dependent Variable**

The dependent variable in the study was the student's shooting performance on an adapted AAHPER Speed Spot Shooting Test. This variable will be defined in the procedure section.

### **Independent Variables**

The independent variables were:

- (a) the achievement group based on the individual's score on the achievement scale of the HSBAS. The two groups were defined as either low or high achievers.
- (b) a short term goal group (set weekly), a long term goal group (a final test trial goal) and a short term plus long term goal group (a weekly plus final test trial goal).

## **Limitations**

1. Student absenteeism during lessons may have affected the mean difference scores between the goal proximity conditions, between the achievement groups, and the interaction between the goal proximity conditions and the achievement groups.
2. A high attrition rate of students who did not complete all four trials may have affected the external validity of the findings.

3. The study was restricted to male Grade 10 students and therefore caution should be generalized to female or co-educational classes.

### **Instrumentation**

#### **The Howe Sport Behavior Assessment Scale (HSBAS)**

The HSBAS is a written inventory consisting of 30 items divided equally between achievement and affiliation statements distributed randomly throughout the questionnaire. Howe (1976) developed the HSBAS questionnaire based on achievement and affiliation incentives in Birch and Veroff's behavioral model of motivation (1966). The HSBAS uses a 5 point Likert scale and is designed to measure the strength of achievement and affiliation motivation. For the purpose of this study, the achievement score only was required.

Zachary (1987) found that the HSBAS has high reliability and is able to distinguish between low and high achievers. One week and six month test/retest reliability coefficients were .86 and .80 respectively (Zachary, 1987, p. 26).

#### **The Speed Spot Shooting Test (SSST)**

The SSST is one of four tests included in the Basketball for Boys and Girls Skills Test Manual of the American Alliance for Health, Physical Education, Recreation and Dance (Hopkins, Shick, and Placek, 1984). The test is designed to measure skill in rapidly shooting from specified positions.

The test consists of five spots from a distance of 15 feet from the backboard, including layups from the right and left side of the basket. For the purpose of this study, a distance of 12 feet was selected for the five shooting spots. This decision

was based on the fact that a large percentage of students used improper technique in the pilot study because of the distance from the goal. Subjects completed a total of two 60 second trials. The test was conducted in pairs with one student shooting per trial. Student A completed a 30 second warmup period followed by a 30 second warmup period for student B. Student A completed their first one minute trial followed by student B completing their first trial. After student B finished their first trial student A completed their sixty second trial followed by student B.

Students were required to shoot from all five spots and were allowed a maximum of four layups. Layups were not allowed to be repeated in succession. Students were required to move to spots using a proper dribbling technique (no travelling or double dribble violations). A violation negated the next attempt at the goal.

Two points are awarded for each successful basket and one point is awarded for an unsuccessful shot that hit the rim from above either initially or after rebounding from the backboard. The final score was the total points for each of the two sixty second trials.

In a validity study conducted in a school setting, fifty students per gender per grade level were administered multiple trials of a six item test battery. The stability estimate of reliability for the SSST was .95 for males in high school. A multiple correlation of the estimates of validity for the entire test battery was .81 in high school. Concurrent validity coefficients were determined by correlating subjective ratings for both the specific skill and game performance with each test. The senior high school concurrent validity was .90 for males (Hopkins, Shick, and Placek, 1984).

### Questionnaire

A questionnaire was produced by the researcher to determine how the students utilized the goals they were assigned during the basketball unit. The questionnaire was administered to all subjects following the completion of their final SSST (see Appendix D).

### Pilot Study

One month prior to the data collection two hundred and eight–five students in junior high school setting were assigned goals to improve basketball shooting performance. The purpose of this pilot study was to evaluate goal difficulty and the practical considerations of the SSST in a physical education class setting.

Students were randomly selected into one of three goal proximity conditions: a weekly goal group, a long term goal group (a final test goal), and a group utilizing both short and long term goals. Eighty–eight students utilized short term goals, ninety–three students were assigned long term goals, and eighty–six students received short and long term goals.

For goal setting purposes a score of fifty was selected as an ideal score on the SSST. Twenty–five percent of the difference between the ideal score and the obtained score was determined. This score was added to the obtained score for the short term goal. Fifty percent of the difference between the ideal score and the obtained score was determined. This score was added to the obtained score for the long term goal. The short/long term goal condition combined the goal setting procedure in the short term and long term goal condition.

The junior high basketball unit consisted of ten lessons. Students completed the SSST every third lesson of instruction, completing the test during lesson three, six, and nine. Assigned goals were presented to students at the beginning of lesson four, seven, and ten because the determination of each student's goal was completed by the researcher.

Modifications to the printed recording sheet of the SSST were made based on student recording procedures during testing. Testing trials were included on a single recording form to assist in consistent record keeping and a simpler distribution to students. Based on the experience of the findings of the study, the percentage of improvement was reduced by five percent for short term goals and by ten percent for the long term goals for the determination of goals in the high school setting. This change was considered necessary to present students with realistic goals in the major study.

### Procedure

One month prior to the beginning of the basketball unit students were presented with a cover letter (see Appendix F) outlining the student's involvement in the study and a parental consent form (See Appendix F), which was completed and forwarded to the researcher.

One week prior to the beginning of the basketball unit 115 students completed the HSBAS. Students were divided into high achievers based on a score of 51 or more and low achievers based on a score of 50 or less on the achievement score. A score of 50.39 represented the average score of the 115 students that completed the test. In total, there were 61 high achievers and 54 low achievers.

A table of random numbers was used to divide the low and high achievers into one of three goal setting conditions: a weekly goal group, a final testing trial goal group, and a goal group consisting of a weekly goal and a final testing trial goal. Following instruction in dribbling, the layup, and shooting on the third lesson all students completed their first SSST. A printed recording form (see Appendix B) was presented to each student to record their first score. All students were informed of the recording procedure and the teacher was assisted by Physical Education 20 students in supervising the testing protocol. Following the completion of the test the teacher returned the recording forms to the researcher for the calculation of goals.

Goals were determined after the selection of an ideal score of 60 for the SSST. The score of 60 was selected by the researcher in consultation with the class teacher and based on the results from a pilot study conducted in junior high school. A percentage of improvement from the ideal score was the basis for determining the goal. A weekly goal was determined by calculating 20 percent of the difference between the ideal score and the present score. This score was added to the present score to determine next week's goal. A final testing trial goal was determined by calculating 40 percent of the difference between the ideal score and the present score. This score was added to the present score to determine a final testing trial goal. Students in the *short term plus long term goal group* utilized the combined procedures of the short term goal group and the long term goal group. For example, if a student in the short term goal group received a score of 50 on trial 1 his next week's goal would be 52 ( $50 + [20\% \text{ of } 10] = 52$ ). If he scored 40 on trial 2 his next week goal would then be 44 ( $40 + [20\% \text{ of } 20] = 44$ ). A long term goal student who scored 50 on trial 1 would receive a long term goal of 54 ( $50 + [40\% \text{ of } 10] = 54$ ). If

he scored 40 on trial 2 he would still have his long term goal of 54. A student in the short term plus long term goal condition who scored 50 on trial 1 would receive a short term goal of 52 and a long term goal of 54. If his next trial score was 40 he would receive a new short term goal of 44 but retain his previous long term goal of 54. All students were informed of their goal at the beginning of the next lesson following the SSST. The printed goal forms were distributed individually to the students and returned to the teacher following acknowledgement of the goal by the student.

When the SSST was completed for a third time during lesson nine, the determination of goals remained the same as before except the weekly/final goal group received the same goal (20% improvement) for both their weekly goal and the final trial goal. This was necessary because the proximity of both goals was one week only. The distribution of goals to students was repeated at the beginning of lesson ten.

The final SSST was completed on lesson 11 of the 12 lesson basketball unit. An anticipated high absentee rate was expected on the last day of classes prior to the Christmas holiday required that the normal testing day be moved ahead one lesson. Students completed the goal setting questionnaire following their fourth and final SSST in class in lesson 11.

### **Data Analysis**

To determine if there are any significant SSST differences among the goal setting conditions and achievement motivation groups on the initial trial an analysis of variance was used. A repeated measures multivariate analysis of variance was conducted on the SSST performance scores over the four trials producing a  $3 \times 2 \times 4$

(Goal Proximity × Achievement Motivation × Trials) MANOVA. The Wilks Lambda was used to determine if there was any significant differences between the trials, between the achievement motivation groups, and between the goal proximity conditions. The results were also analyzed to determine if there were any significant interactions between the variables across the four trials.

## CHAPTER IV

### RESULTS

This chapter presents the results of the data analyses for each of the hypotheses stated in Chapter II.

The means and standard deviations of shooting performances on the SSST during the four trials for all six groups are listed in Table 1. To determine if there were any initial differences among the goal setting conditions and achievement motivation groups, a  $3 \times 2$  factorial ANOVA (Goal Proximity  $\times$  Achievement Motivation) was conducted. Results of the ANOVA (see Table 2) indicated no significant between-group differences and no significant interaction. However, homogeneity of variance among the groups approached significance when tested by Box's M test ( $p = .051$ ), indicating caution must be taken in assuming initial equivalency among the groups and in interpreting the ANOVA results at Trial 1.

Based on these results, a  $3 \times 2 \times 4$  multivariate repeated measures MANOVA (Goal Proximity  $\times$  Achievement Motivation  $\times$  Trials) was conducted on the SSST performance scores. The SSST performance score was used as the dependent variable, measured at each of the four trials.

Results of the MANOVA overall on the SSST (see Table 3) revealed no significant main effect for goal proximity,  $F(2,73) = 1.61$ ,  $p = .206$ , or for achievement motivation,  $F(1,73) = 1.97$ ,  $p = .165$ . Also, there was no significant interaction between goal proximity and achievement motivation,  $F(2,73) = .22$ ,  $p = .804$ .

**TABLE 1**  
**Means and Standard Deviations of Shooting Performances**  
**on the SSST Over Time for all Groups**

Goal Proximity Group	Achievement Motivation	Trial			
		1	2	3	4
Short Term	High <sup>a</sup>	37.0 (4.5)	39.6 (7.6)	40.3 (8.3)	42.7 (5.2)
	Low <sup>a</sup>	34.4 (9.4)	37.6 (9.7)	36.6 (8.0)	37.8 (9.8)
Long Term	High <sup>c</sup>	31.5 (8.0)	38.9 (8.2)	38.8 (8.0)	39.6 (7.1)
	Low <sup>d</sup>	31.2 (8.0)	34.1 (7.4)	34.4 (8.8)	37.5 (6.7)
Short Term Plus Long Term	High <sup>e</sup>	32.7 (8.5)	34.0 (6.8)	37.1 (7.8)	36.9 (8.5)
	Low <sup>f</sup>	31.9 (8.4)	35.2 (8.4)	34.2 (12.1)	36.3 (10.4)

**NOTE.** a<sub>n</sub> = 16   b<sub>n</sub> = 15   c<sub>n</sub> = 12   d<sub>n</sub> = 14   e<sub>n</sub> = 11   f<sub>n</sub> = 11

**N = 79**

Box's M (Trial 1) = 79.04, *p* = .051

Standard deviations are in parentheses.

**TABLE 2**

**ANOVA of Differences between Goal Proximity Groups**  
**on SSST on Trial 1**

Source	<i>MS</i>	<i>F</i>	<i>df</i>	<i>p</i>
Goal Proximity	150.81	2.41	2,73	.097
Achievement Motivation	36.94	.59	1,73	.444
Goal Proximity × Achievement Motivation	9.89	.15	2,73	.854
Within	62.51			

**N = 79**

**TABLE 3**

**Multivariate and Associated Univariate Analysis of SSST Scores  
for Achievement/Goal Proximity Group over Time**

Source		<i>MS</i>	<i>F</i>	<i>df</i>	<i>p</i>
Goal Proximity (GP)		346.47	1.61	2,73	.206
Achievement Motivation (AM)		422.64	1.97	1,73	.165
GP × AM		46.88	.22	2,73	.804
Within		214.67		73	
Trials	.54 <sup>a</sup>		19.94	3,71	.000
Linear Trend		1032.88	47.06	1,73	.000
Quadratic Trend		68.49	4.91	1,73	.030
Cubic Trend		72.56	3.23	1,73	.076
Trials × GP	.92 <sup>a</sup>		.89	6,142	.498
Trials × AM	.95 <sup>a</sup>		1.01	3,71	.389
Trials × GP × AM	.90 <sup>a</sup>		1.23	6,142	.293

**NOTE:** <sup>a</sup> = Wilk's Lambda

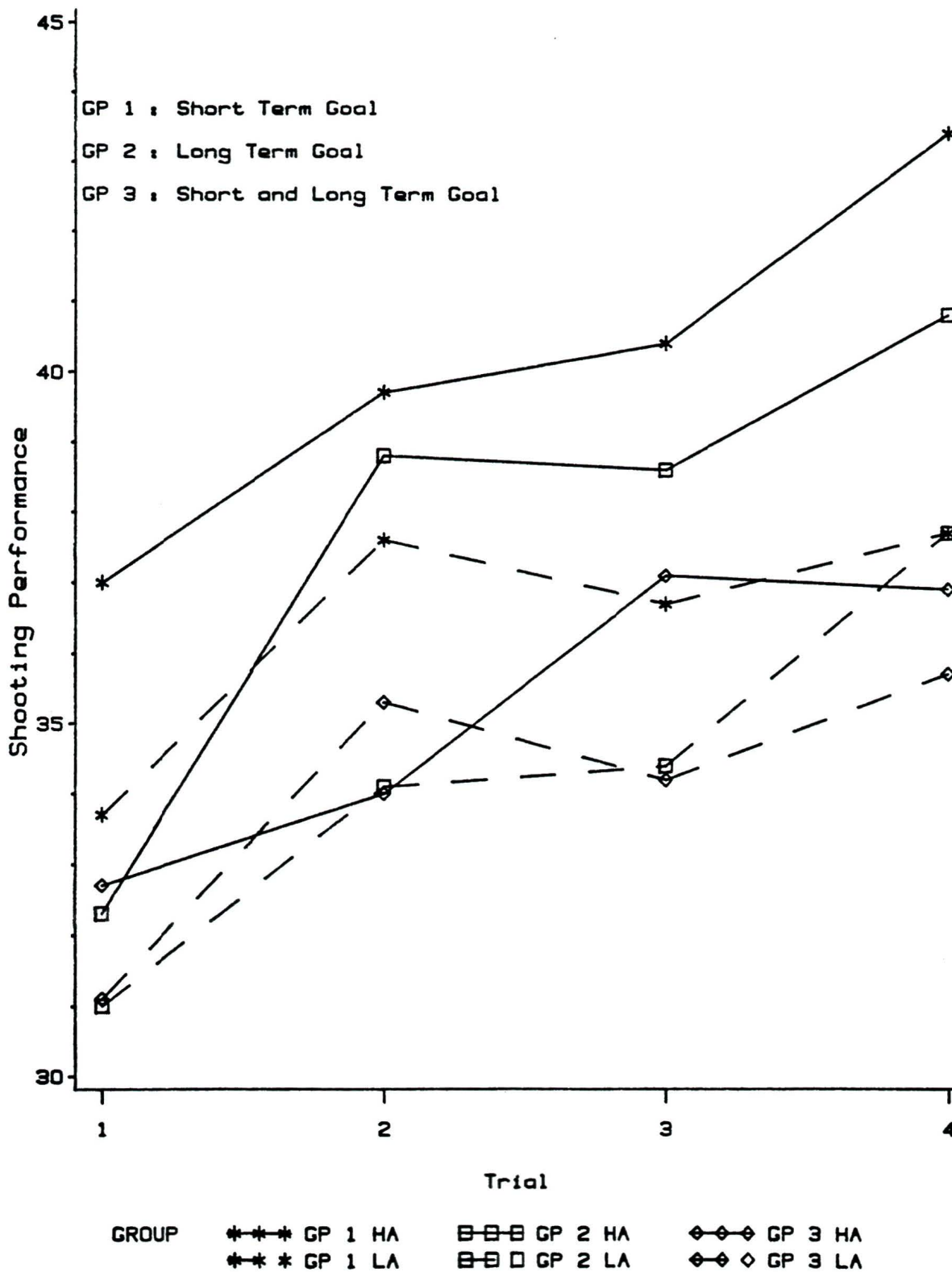
**N = 79**

Investigating the within-subjects effects for shooting on the SSST, a Trials multivariate main effect was observed, Wilks' Lambda = .54,  $F(3,71) = 19.94$ ,  $p < .001$ , indicating a difference among the trial scores. To examine these differences, orthogonal polynomial contrasts between trials were conducted. Orthogonal polynomial contrasts revealed a strong linear trend,  $F(3,73) = 47.06$ ,  $p < .001$ , a significant quadratic trend,  $F(3,71) = 4.91$ ,  $p = .03$ , and a diminishing cubic trend,  $F(3,71) = 3.23$ ,  $p = .076$ . Figure 1 illustrates the mean shooting scores over the four trials for the high and low achievers in the three goal proximity conditions.

A  $3 \times 2$  factorial ANOVA (Goal Proximity  $\times$  Achievement Motivation) was conducted on the final testing period (see Table 4). No significant main or interaction effects were observed.

Descriptive results of the Goal Setting questionnaire are included in Appendix E.

FIGURE 1 : Low Achievers (LA) and High Achievers (HA)  
 Mean Performance Scores Over 4 Trials on the SSST  
 For Three Goal Proximity (GP) Conditions



**TABLE 4****ANOVA of Differences between Goal Proximity Groups on SSST  
on Trial 4**

Source	<i>MS</i>	<i>F</i>	<i>df</i>	<i>p</i>
Goal Proximity (GP)	87.06	1.34	2,73	.268
Achievement Motivation (AM)	155.33	2.39	1,73	.126
GP × AM	33.16	.51	2,73	.602
Within	64.95		73	

N = 79

## CHAPTER V

### DISCUSSION

The present investigation examined the effects of goal proximity on basketball shooting by students identified as either low or high achievers in sport settings. The findings are compared to other studies and presented as support for Bandura's (1977) self-efficacy theory of motivation. Finally, implications for goal setting in physical education and recommendations for future research are presented.

The teacher assigned goals produced significant improvements in the students' basketball shooting performances. Student improvement occurred throughout the unit, but the SSST scores yielded no significant differences in performance between three goal proximity conditions. Similarly, goals were equally effective for both low and high achievers in improving shooting performance from the first week of instruction to the final week of the basketball unit.

To examine the effect of goal proximity and achievement levels on the goal setting process the findings are discussed in terms of the two hypotheses presented in Chapter 2.

***Hypothesis 1.*** There will be no significant difference in performance between the short term goal (weekly), long term goal (a final trial goal), and the short-term-plus-long-term goal groups.

In examining data from the repeated measures MANOVA conducted on the performance scores over the four trials, no significant goal proximity effect emerged. The hypothesis was therefore supported. All goal proximity conditions, short-term,

long-term, and short-term-plus-long-term, resulted in similar improvements in performance. This was consistent with research carried out by Weinberg *et al.*, (1985) and Weinberg *et al.* (1988) who also found no significant differences between these goal conditions.

Results suggest the motivational benefits of goals were operating during a period of time where, in the absence of goals, persistence on tasks typically declines (Locke and Bryan, 1966). Teacher assigned goals and personal goals by students contributed to improvements in shooting scores during the final testing trial. This finding supported Locke and Bryan who found that goals prolong effort during the final trials of the task. Student scores for Trial 4 demonstrated the positive impact of goals on shooting performance after repeated trials of the SSST.

A tendency for subjects to set personal, short-term goals was supported by the descriptive data provided by students. Because of this, they may have confounded the goal proximity treatments by selecting goals that were different than the goals assigned by the teacher. This behavior was also reported in research conducted by Weinberg *et al.* (1985). In a sit-up task, Weinberg found 50% of the subjects in the short-term goal condition also set long-term goals and 55% of subjects in the long-term goal condition also set short-term goals. The percentage of students who selected a personal goal in addition to their assigned goal was similar in the present study. However, of the 52% of the students who selected a personal goal, the majority (86%) tended to select a shorter goal than the one they were assigned. Long-term goal and short-term goal students both tended to set immediate or daily goals to supplement their final performance goal or next week's goal. Seventy-five percent of the short-term-plus-long-term goal students who set a personal goal elected to select an additional short-term goal. Student preference for short-term

goals supports Bandura's (1977) position that subjects are inclined to set short-term goals which will lead to success in obtaining long term goals. According to Bandura, the trend to select short-term goals is a result of the present inducements to action which are provided by the goal. Attaining short-term goals provide self-satisfactions that reinforce and sustain the individual's efforts to achieve long-term goals.

The students' decision to set additional short term goals may have been caused by the time distance between their present skill performance and their final assigned goal. If students had felt the long-term goal was too distal to be of any value to them during the execution of the SSST they may have altogether rejected the goal and set a weekly or daily goal. It is also possible that students accepted their final performance goal but found it necessary to use short term goals to enable them to reach the assigned final performance goal.

The self-report data also provided information that questioned whether the goals were sufficiently difficult. Sixty-six percent of the students reported that the goals were from "moderate" to "very easy" to obtain. Despite these results the percentage of students who were successful in achieving their goals indicated that goals were sufficiently difficult. Only 29% of the assigned goals were successfully obtained during student trials. This percentage of successful goal attempts is close to Locke's 30% success rate criteria for difficult goals. In Locke's theory of goal setting (1968), he postulated that difficult goals produced better performance than moderate or easy goals.

**Hypothesis 2.** There will be no significant difference between the performance of low achievers and high achievers in the short-term goal group, long-term goal group, and the short-term-plus-long-term goal group.

The repeated measures MANOVA conducted on the basketball shooting scores over the 4 trials indicated there was no significant difference between the low achievers and high achievers. In other words, goals were utilized by both achievement groups to reach an improved performance level.

These results indicate that teacher assigned goals may have contributed to offset any individual differences between students. Locke *et al.* (1981) has pointed out under these circumstances, individual differences might be masked by teacher assigned goals. The decision to assign goals, however, was supported by a previous study in physical education that found teacher assigned goals were superior in promoting achievement than student set goals (Lee *et al.*, 1983). In addition the manner in which the goals were set respected the individual skill differences of students. Goals were calculated on a percentage of improvement potential from the student's present score to an ideal score.

By determining goals based on the student's achievement, non-significant differences in performance occurred between low and high achievers. Descriptive data reported that the majority of low achievers accepted their teacher assigned goal. Only 3 out of 55 low achievers reported that the goals were not relevant in allowing them to achieve the performance level they obtained. In addition, no low achievers stated that they were not committed to reach their goals and only 24% indicated they were "slightly" committed. This acceptance of goals by low achievers had not been expected. In previous studies, low achievers avoided ability assessment when possible, had lower performance expectations, and experienced evaluation anxiety (Atkinson, 1974; Geen, 1980; Kukla, 1972). According to Atkinson's theory of achievement motivation (1974), personal goal setting by low achievers resulted in either very easy goals or very hard goals because, in this way,

low achievers could avoid the intense evaluation that characterizes goals of intermediate difficulty. Low achievers select easy goals which have a high probability of success to avoid failure or a very difficult goal where they are not threatened because the difficulty made success unlikely. In the present study, however, of the 23 low achievers who set personal goals, only two students set goals that were "easier" and one student set a "harder" goal. Four students set goals that were described as "slightly easier", six students selected goals that were "about the same", and ten students elected to use goals that were "slightly harder".

Descriptive data seems to indicate greater goal commitment by high achievers in comparison to low achievers. Thirty-one high achievers reported higher than average goal commitment and 17 low achievers reported higher than average goal commitment. Twelve high achievers and 23 low achievers indicated they were committed "an average amount." Of the 13 students who reported they were "slightly" committed, all of these students were from the low achievement groups. Although the differences are not statistically significant, this reported greater commitment appears to be reflected in the higher mean shooting score which was obtained for high achievers in comparison to low achievers. Greater goal commitment by high achievers was expected because results have proven that these individuals prefer situations which facilitate the self-assessment of their competence (Atkinson, 1974). Student assessment of their performance in comparison to their goal provided information regarding their shooting competence.

Student attrition from the statistical analysis may have also contributed to results between the low achievers and high achievers. Those students who were absent from class may not have attended because of their avoidance of achievement orientated situations. This appeared to be a possibility because 16 of the 24

students who did not complete all testing and thereby were not included in the final statistical analysis were identified as low achievers.

### General Discussion and Conclusions

While the study was designed to determine if goal proximity is a significant factor in the goal setting process it is possible to interpret the results in the context of a motivational theory. In this particular study all goal proximity groups made significant gains in performance but there were no significant differences between short-term, long-term, and short-term-plus-long-term-goal conditions. As outlined above, these findings may have been due to the reported conversion of long-term goals into short-term goals. This is consistent with earlier research (Bandura and Simon, 1977; Weinberg, *et al.*, 1985; Weinberg *et al.* 1988) who also indicated this tendency of subjects to use short term goals.

The tendency to supplement long term goals with short term goals provides support for Bandura's (1977) self-efficacy theory of motivation. Self-efficacy refers to the strength of a person's conviction that they can successfully make a response that is required to produce a certain outcome. In this cognitively based theory of motivation, goal setting operates through an internal comparison process (Bandura, 1978). When individuals commit themselves to explicit goals, the perceived negative discrepancies between what they do and what they seek to achieve creates self-dissatisfaction that serves as motivational inducement for enhanced effort. Both the anticipated self-satisfaction for matching accomplishments and the self-dissatisfaction with substandard performances provide incentives for heightened effort (Bandura and Cervone, 1983).

Bandura (1982) proposed that the competence cues provided by short-term goals provide for more frequent acquisitions of self-efficacy than the cues provided

by long term goals. Short-term goal attainments provide information which promote the development of self-efficacy within the individual. Bandura believes the competence cues available through long term goals are too limited and ambiguous to enhance perceptions of self-efficacy. Therefore, short term goals affect motivation through the direct information they provide.

As described above, Bandura's (1982) theory does account for the students who preferred to use short-term goals to evaluate their performance on the basketball shooting test. The competence cues provided by measuring their performance provided the student with the incentive to continue to progress toward their final unit goal. Conversely, the long term goals may not have provided enough information regarding the student's competency to complete the task following test completion. If the discrepancy between the student's performance and the assigned goal was too great this may have resulted in actually decreasing the student's motivation to improve through lower feelings of self-efficacy. By setting an achievable short-term goal, motivation to continue to improve would be much more likely. Students' preference for short-term goals resulted because these goals provide standards by which students could measure their progress throughout the unit.

In general, the benefits of goal setting for improving motor skill performance are applicable to both low and high achievers in a sport performance setting. For high achievers, goals provide information regarding their ability in an achievement orientated situation. For these individuals, goals enhance their interest in performing skills by confirming and highlighting their existing self-efficacy to improve their performance. For low achievers, attainable goals provide the competence information which may increase interest in improving their skills

through a self-efficacy mediation process. Successful goal attainment for low achievers can provide information that counters self-doubts about their potential to improve their shooting skills.

It is clearly important for teachers to ensure that the difficulty of the goals set for low achievers are achievable. In this study goals were determined by a percentage of possible improvement from the student's score to an ideal score for their grade level. If goals had been perceived as being beyond the ability of the student they may have led to a decrease in motivation due to their fear of failure. In addition, caution must be exercised to prevent the ability evaluation inherent in goal setting from undermining interest in skill improvement for low achievers. Low achievement orientated students' self-motivation is best maintained when perceptions of self-efficacy are developed by or maintained by personally challenging goals.

The study has provided additional support for the use of goals in motivating students to improve motor skill performance. In addition to the positive effect of goals, the other major finding was the lack of significant differences between the goal proximity groups. However, these results should be interpreted with some caution. Descriptive data indicated that students frequently set goals that resulted in short term goal conditions. This tendency to set short term goals is valuable information for teachers who wish to increase student motivation through goal setting techniques. Student action in determining goals permits the teacher to be more available to facilitate student achievement. As the student becomes more responsible for the goal this may lead the teacher to provide a more supportive rather than directive role in the goal setting process. Students who require assistance in selecting a goal should then feel less threatened to approach the

teacher for assistance. The teacher would be able to monitor the goals set by students and provide direction and encouragement where necessary. Further research would be beneficial to determine the most effective role of the teacher in the goal setting process.

For the purpose of this study, goals were set on the basis of a percentage of possible improvement from a current level of performance. Although it was felt that this technique would allow for individual differences, many students were still inclined to provide shorter term goals. This may have occurred because the student felt the discrepancy between the present level of performance and the long term goal was too great. Achievement of a short-term goal could have provided the student with increased feelings of self-efficacy and in this way work more effectively towards the long-term goal. Future skill evaluation tasks could have been less threatening to the student as a result of the self-efficacy that was developed from achieving short-term goals in previous motor skill tasks.

In summary, these findings support the use of goals in improving motor skill performance in physical education. Furthermore, the proximity of the goal did not influence the level of performance attained by the student. Student self-reports indicated acceptance of the practice of using goals to improve motor skills and the tendency to set personal goals to supplement assigned goals by the teacher. Recognizing that previous research has demonstrated support for the use of goals to improve performance, future research should study whether students elect to use goals on their own without any encouragement from the teacher. Replication of this study with a control group who did not receive teacher assigned goals would also be necessary to better understand the use of goal setting in physical education.

Future research is also required to evaluate the effectiveness of how goals are

determined for use in different motor skill tasks. In the area of goal difficulty, these should be varied to determine the level of difficulty that results in the greatest performance improvements. The information would enable teachers to implement goal setting more effectively as part of their current teaching practices.

Finally, while previous research in assigned and participatively set goals is extensive, few field studies have addressed this issue in physical education. Research in physical education classes involving student-set and teacher-set goal setting techniques is desirable.

The present study lends support for the use of goal setting in physical education. It is hoped that these results will provide both direction for future research and encouragement to teachers to attempt the techniques in a classroom setting.

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**APPENDIX A**

**AAPHERD Speed Spot Shooting Test**

### AAHPERD SPEED SPOT SHOOTING TEST

- PURPOSE:** To measure skill in rapidly shooting from specified positions and, to a certain extent, agility and ball handling.
- EQUIPMENT:** Standard inflated basketball, standard goal, stopwatch, tape for marking floors.
- TEST/TARGET DIMENSIONS:** Five floor markers (2 ft. long and 1 in. wide) should be placed on the floor. For upper elementary grades 5 and 6, the markers will be 9 feet from the backboard; for grades 7, 8, 9, the distance will be 12 feet from the backboard; for grades 10, 11, 12, and college, the distance will be 15 feet from the backboard. The distances for spots B, C, D must be measured from the center of the backboard; those for spots A and E must be measured from the center of the basket. (See Diagram 2.)
- ADMINISTRATION:** There will be 3 trials of 60 seconds each. The first is a practice trial and the next two are recorded. The performer may stand behind any marker designated for his/her age level. On the signal "Ready, Go!" the performer will shoot, retrieve the ball, dribble to and shoot from another designated spot. (One foot must be behind the marker during each attempt.) A maximum of four lay-up shots may be attempted during each trial, but no two may be in succession. The performer must attempt at least one shot from each designated spot.
- VIOLATIONS/PENALTIES:**
- Ball-handling infractions (traveling, double dribble, etc.). Shot following violation scored as zero points.
  - Two lay-ups in succession. Second lay-up scored as zero points.
  - More than four attempts at lay-ups. All excessive lay-ups scored as zero points.
  - Failure to shoot from each of the five designated spots. Repeat trial.
- SCORING:** The test administrator must record the spots at which shots are taken, as well as the number of attempted lay-ups. It is recommended that the recorder use a card such as

ABCDE 1234
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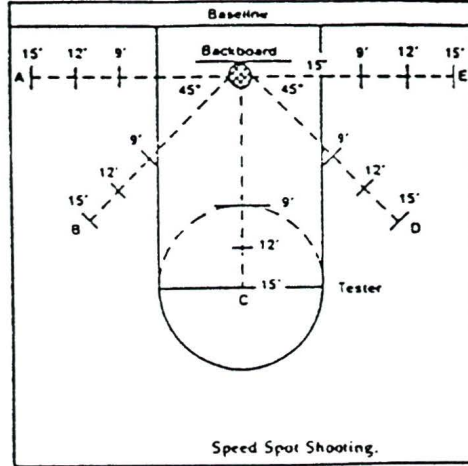


**APPENDIX B**

**Goal Setting Forms**

### SPEED SPOT SHOOTING

Name: \_\_\_\_\_ Period: \_\_\_\_\_



Date     /     /      
           D / M / Y

Test 1

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30

+ \_\_\_\_\_

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

NEXT WEEKS' GOAL \_\_\_\_\_

Date     /     /      
           D / M / Y

Test 2

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30

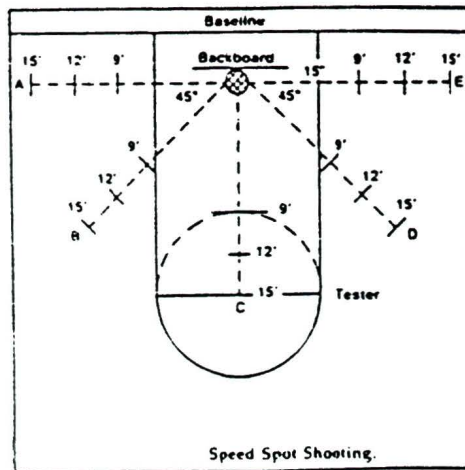
+ \_\_\_\_\_

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

NEXT WEEKS' GOAL \_\_\_\_\_



Date      /      /     

Test 3

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

+ \_\_\_\_\_

Total = \_\_\_\_\_

NEXT WEEKS' GOAL \_\_\_\_\_

Date      /      /     

Test 4

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

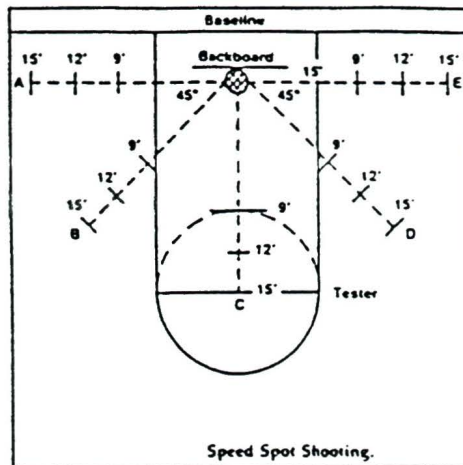
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

+ \_\_\_\_\_

Total = \_\_\_\_\_

### SPEED SPOT SHOOTING

Name: \_\_\_\_\_ Period: \_\_\_\_\_



Date      /      /     

Test 1

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

FINAL PERFORMANCE GOAL \_\_\_\_\_  
(lesson 12)

Date      /      /     

Test 2

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

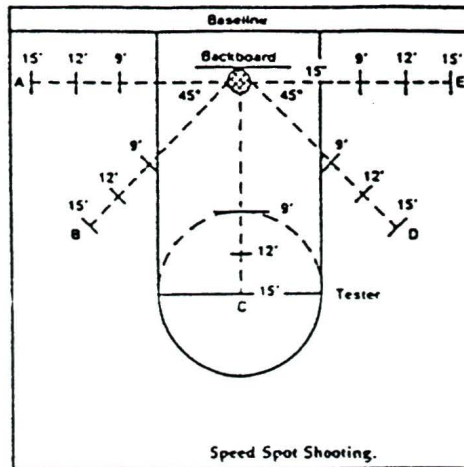
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

FINAL PERFORMANCE GOAL \_\_\_\_\_  
(lesson 12)



Date      /      /     

Test 3

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total =           

FINAL PERFORMANCE GOAL             
(lesson 12)

Date      /      /     

Test 4

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

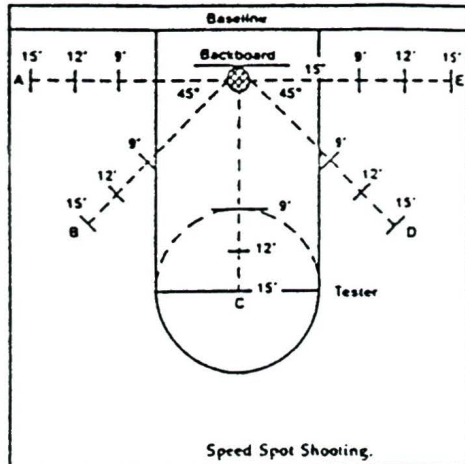
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total =

### SPEED SPOT SHOOTING

Name: \_\_\_\_\_

Period: \_\_\_\_\_



Date     /     /    

Test 1

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

NEXT WEEKS' GOAL \_\_\_\_\_  
FINAL PERFORMANCE GOAL \_\_\_\_\_ (lesson 12)

Date     /     /    

Test 2

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

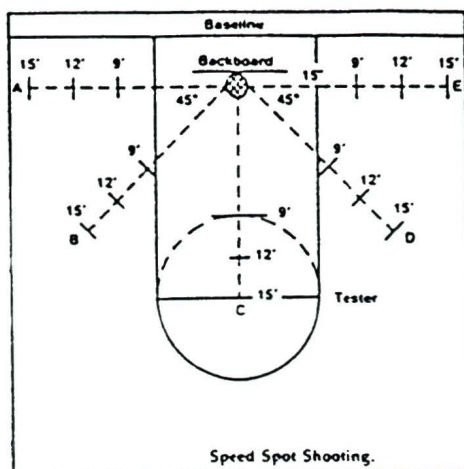
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total = \_\_\_\_\_

NEXT WEEKS' GOAL \_\_\_\_\_  
FINAL PERFORMANCE GOAL \_\_\_\_\_ (lesson 12)



Date     /     /    

Test 3

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total =           

NEXT WEEKS' GOAL \_\_\_\_\_  
FINAL PERFORMANCE GOAL \_\_\_\_\_ (lesson 12)

Date     /     /    

Test 4

Locations  
A B C D E

Lay-ups  
1 2 3 4

Trial 1 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Trial 2 (60 secs.)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30

Total =

**APPENDIX C**

**Howe Sport Behavior Assessment Scale**

### Howe Sport Behaviour Assessment Scale

**Instructions:** The scale is a self-rating instrument. You should check each item with reference to your likely behaviour as a sport participant. When rating yourself consider the middle category as representing an average of those who compete in your sport.

1 = Never  
2 = Occasionally  
3 = An average amount

4 = Often  
5 = Always

		1	2	3	4	5
1.	I am willing to work hard to correct my weaknesses.					
2.	I am single-minded in my approach to winning.					
3.	I have the respect of my opponents for my skill.					
4.	I accept criticism easily from my sporting peers.					
5.	I am a fair competitor.					
6.	I am selfish in my desire to succeed.					
7.	I share my knowledge with my rivals.					
8.	I am loyal to my team members.					
9.	I accept easily not being the best in my sport.					
10.	I am one of the hardest workers in my sport.					
11.	I am prepared to sacrifice a great deal to achieve my goals.					
12.	I consider friendships made through sport are a major reason for my participation.					

... Continued

		1	2	3	4	5
13.	I hate to lose.					
14.	I make friends easily with other in my sport.					
15.	I gain pleasure from the success of others in my sport.					
16.	I believe that new situations will affect my performance negatively.					
17.	I accept defeat in games without being distressed.					
18.	I enjoy the recognition from other athletes.					
19.	I argue with officials.					
20.	I enjoy being a leader in my sport.					
21.	I find it difficult to accept advice from other athletes.					
22.	I believe I owe more to others than to my own efforts.					
23.	I love the praise of my coach.					
24.	I give of my best in sport.					
25.	I recognize my lack of skill will always prevent me from being the best.					
26.	I enjoy participating against new participants.					
27.	I believe friendships in sport detract from my performance.					
28.	I am prepared to break the laws to win a game.					
29.	I believe that I show more potential than my opponents.					
30.	I am upset when my friends do not succeed.					

## Howe Sport Behaviour Assessment Scale

### Scoring Instructions

Procedure: Scoring is as follows:

<u>Regular</u>		<u>Reverse</u>	
Never	= 1	Never	= 5
Occasionally	= 2	Occasionally	= 4
An average amount	= 3	An average amount	= 3
Often	= 4	Often	= 2
Always	= 5	Always	= 1

#### A. Achievement Sub-scale

(1) The following questions are to be scored in the regular pattern:

1, 2, 3, 6, 10, 11,

13, 18, 23, 24, 29

(2) Of these, the following questions are to be scored in the reverse pattern:

9, 16, 17, 25

#### B. Affiliation Sub-scale

(1) The following questions are to be scored in the regular pattern:

4, 5, 7, 8, 12, 14,

15, 20, 22, 26, 30

(2) The following questions are to be scored in the reverse pattern:

19, 21, 27, 28

**APPENDIX D**

**Goal Setting Questionnaire**

## GOAL SETTING QUESTIONNAIRE

Name: \_\_\_\_\_

Instructions: This questionnaire is designed to allow you to present your ideas on the use of goal setting in learning basketball shooting skills. Please indicate your answer to the following questions by filling in the box that pertains to how you feel regarding the following questions.

1. How difficult do you feel it was to reach the goals that were assigned to you in class?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VERY EASY	EASY	MODERATE	DIFFICULT	VERY DIFFICULT

2. How important do you feel the goals were in allowing you to reach the performance level you obtained?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOT AT ALL RELEVANT	RELEVANT BUT NOT IMPORTANT	IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT

3. How committed do you feel you were in attempting to reach your goals?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOT AT ALL	SLIGHTLY	AN AVERAGE AMOUNT	ABOVE AVERAGE	HIGHLY

4. Were you satisfied with your final performance on the speed spot shooting test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOT AT ALL	SLIGHTLY	A FAIR AMOUNT	QUITE SATISFIED	TOTALLY

5. Please indicate which of the following assigned goal setting conditions you utilized during the basketball unit.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHORT TERM (WEEKLY)	LONG TERM (FINAL PERFORMANCE GOAL)	SHORT TERM PLUS LONG TERM (WEEKLY GOAL PLUS A FINAL PERFORMANCE GOAL)

6. Did you set your own personal goals in addition to the goals that were assigned to you for the Speed Spot Shooting test in class?

YES

NO  
(PROCEED TO QUESTION 9)

7. If you answered yes to question 6, what type of goal did you set for yourself?

IMMEDIATE  
GOALS

DAILY GOALS

WEEKLY GOALS

A FINAL  
PERFORMANCE  
GOAL

8. If you answered yes to question 6, what was your personal goal in terms of difficulty in relation to your assigned goal?

EASIER

SLIGHTLY  
EASIER

ABOUT THE  
SAME

SLIGHTLY  
HARDER

HARDER

9. Do you generally feel that the setting of goals can improve motor skill performance?

ALMOST  
NEVER

OCCASIONALLY

SOMETIMES

FREQUENTLY

ALMOST  
ALWAYS

**APPENDIX E**

**Goal Setting Questionnaire Results**

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**RESPONSES FROM GOAL SETTING QUESTIONNAIRE BY GROUP**


---

1. How difficult do you feel it was to reach the goals that were assigned to you in class?
- 
- 

	ST <sup>a</sup>		LT <sup>b</sup>		ST/LT <sup>c</sup>		Total	
	HA <sup>d</sup>	LA <sup>e</sup>	HA	LA	HA	LA	HA	LA
Very Easy	0	0	0	0	1	0	1	0
Easy	4	4	3	2	1	3	8	9
Moderate	9	5	8	11	4	11	21	27
Difficult	7	7	4	5	1	4	12	16
Very Difficult	1	2	0	0	2	0	3	2

---

**N = 99**

**Note:**

ST <sup>a</sup>	Short Term Goals
LT <sup>b</sup>	Long Term Goals
ST/LT <sup>c</sup>	Short Term plus Long Term Goals
HA <sup>d</sup>	High Achievers
LA <sup>e</sup>	Low Achievers

- 
2. How important do you feel the goals were in allowing you to reach the performance level you obtained?
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Not at all Relevant	0	3	0	0	1	0	1	3
Relevant But Not Important	5	6	1	7	3	7	9	20
Important	12	5	7	7	2	8	21	20
Very Important	2	3	4	6	3	2	9	11
Extremely Important	2	0	0	1	2	0	4	1

---

N = 99

---

3. How committed do you feel you were in attempting to reach your goals?
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Not At All	0	0	0	0	0	0	0	0
Slightly	0	6	0	4	0	3	0	13
An Average Amount	5	7	4	7	3	9	12	23
Above Average	8	4	7	5	5	2	20	11
Highly	7	0	3	3	1	3	22	6

---

N = 96

---



---

4. Were you satisfied with your final performance on the SSST?

---



---

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Not At All	3	7	2	3	3	3	8	13
Slightly	1	3	6	4	3	6	10	13
A Fair Amount	6	4	4	4	2	3	12	11
Quite Satisfied	3	8	1	7	1	5	5	20
Totally	2	2	1	1	0	1	3	4

---

N = 99

---



---

5. Please indicate which of the following assigned goal setting conditions you utilized during the basketball unit.

---



---

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
	20	14	15	21	11	20	46	45

---

N = 91

- 
- 
6. Did you set your own personal goals in addition to the goals that were assigned to you for the SSST?
- 
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
YES	16	8	7	7	6	10	29	25
NO	5	11	7	11	3	8	15	30

---

N = 99

---



---

7. If you answered yes to question 6, what type of goal did you set for yourself?
- 
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Immediate Goals	0	2	0	0	0	2	0	4
Daily Goals	5	2	4	0	3	0	12	2
Weekly Goals	6	3	2	5	2	5	10	13
A Final Performance Goal	2	1	1	2	1	3	4	6

---

N = 51

- 
- 
8. If you answered yes to question 6, what was your personal goal in terms of difficulty in relation to your assigned goal?
- 
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Easier	0	1	1	1	1	0	2	2
Slightly Easier	1	1	2	1	0	2	3	4
About the Same	1	1	8	1	0	4	8	6
Slightly Harder	4	3	2	3	5	4	11	10
Harder	1	1	2	0	0	0	3	1

---

**N = 51**

---



---

9. Do you generally feel that the setting of goals can improve motor skill performance?
- 
- 

	ST		LT		ST/LT		Total	
	HA	LA	HA	LA	HA	LA	HA	LA
Almost Never	0	0	0	0	0	0	0	0
Occasionally	3	3	2	2	1	3	6	8
Sometimes	1	5	3	5	4	7	8	17
Frequently	4	4	7	7	3	4	14	15
Almost Always	7	6	8	5	1	4	16	15

---

**N = 99**

---

**APPENDIX F**

**Consent Forms**

 UNIVERSITY OF VICTORIA

P.O. BOX 1700, VICTORIA, B.C., CANADA V8W 2Y2  
TELEPHONE (604) 721-8373 TELEEX 049-7222

TO: Parents/Guardians of Students in Mr. B.K. Anderson's Physical  
Education 10 Classes

FROM: Robert W. Poole  
Teacher and Graduate Student  
University of Victoria

---

One of the most persistent problems for teachers is how to effectively motivate students. One of the techniques that has been demonstrated to be effective in increasing the skill and confidence of individuals is goal setting.

Unfortunately, most of the evidence for the effectiveness of goal setting in physical education is anecdotal. It is my intention to determine if goal setting can be of benefit to students' performance in learning motor skills in your son's physical education class. In addition, I am interested to see if the effect of goal setting is consistent for students of different levels of achievement motivation.

The study will involve each student completing a questionnaire to determine their level of achievement motivation. I will administer this questionnaire and students will be identified only with a number for purposes of identification. All students will be utilizing goal setting techniques throughout the course of instruction in their basketball unit. Performance scores on a basketball shooting test will be evaluated to determine the effect of goal setting techniques.

To ensure that I have your permission to allow your son(s) to participate in this study, I would be grateful if you would complete and return the attached form with your son to me at school.

If you have any questions, please contact me at the school (434-8451).

Thank you.

Yours sincerely,

---

Robert W. Poole

RWP:gs  
Attach.

## INFORMED CONSENT

Name: \_\_\_\_\_

Class: \_\_\_\_\_

I, \_\_\_\_\_ state that I am the parent and/or guardian of \_\_\_\_\_ and give my permission for my son(s) to be participants in the study proposed by Mr. Poole. I am aware of the nature of the study and realize there are no risks to my son(s). I also understand that my son is free to withdraw from the study at any time.

I, \_\_\_\_\_ state that I am the parent and/or guardian of \_\_\_\_\_ and do not want my son(s) to be participants in the study proposed by Mr. Poole.

Name: \_\_\_\_\_  
( p l e a s e   p r i n t )

Signature of parent/guardian: \_\_\_\_\_

Signature of participant: \_\_\_\_\_

Date: \_\_\_\_\_

## VITA

Surname: POOLE

Given Names: Robert William

Place of Birth: Calgary, Alberta

Date of Birth: October 11, 1957

### Educational Institutions Attended, with Dates of Entering and Leaving:

UNIVERSITY OF ALBERTA 1976 to 1980

UNIVERSITY OF VICTORIA 1986 to 1988

### Degrees, Diplomas, Etc., Awarded, with Dates and Names of Institutions:

B.Ed. 1980 University of Alberta

### Publications:

Poole, R. (1988). Physical relaxation techniques and sports. *Runner* 26(2), 8-10.

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Title of Thesis:

**GOAL PROXIMITY AND ACHIEVEMENT MOTIVATION  
OF HIGH SCHOOL BOYS IN BASKETBALL SHOOTING SKILLS**

Author:



(Signature)

**ROBERT W. POOLE**

\_\_\_\_\_  
(Name in block letters)

*July 26, 1988*

\_\_\_\_\_  
(Date)