BASIC HITTING FUNDAMENTALS OF
BASEBALL SUPPORTED BY
VISUAL AIDS

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BASIC HITTING FUNDAMENTALS OF BASEBALL SUPPORTED BY VISUAL AIDS

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CHAPTER I

INTRODUCTION

In the last decade there has been a definite increase in the development of interscholastic athletic activity as a part of the school curriculum and an increasing number of participants. More effective ways of teaching the basic fundamentals in interscholastic athletics are constantly being sought by athletic coaches. The athletic coach has the same responsibility to provide carefully planned instruction in progressive skills as does the physical education instructor or any other teacher that is responsible for the education of youth.

Baseball, one of our national sports, is an interscholastic activity offered by many schools. The fundamentals of this sport are important to the spectator, the participant, and the coach; hitting is one of the pertinent skills needed in the participation of the sport. Although many coaches and players have a general knowledge of hitting, there tends to be a need for more instructional aids to help teach the skill more effectively.

The literature in the area of basic hitting fundamentals

\footnotesize
is somewhat limited to personal experiences expressed as opinions in books, in journals, and in periodicals, by well known authorities in the field. In discussing teaching aids, Francisco said, "There appears to be a lack of information on the general knowledge of hitting and that some important teaching aids need be developed to illustrate the proper hitting techniques."¹

Visual aids for large group instruction on the basic hitting fundamentals are almost non-existent. Because so few visual aids are available for individual instruction, it appears that additional materials on the basic hitting fundamentals are necessary. For more effective instruction with the visual aids, an explanation or a written commentary should be presented with them. The problem of this study was to construct a plan for presenting basic hitting fundamentals.

I. THE PURPOSE

The purpose of this study was fourfold: (1) to upgrade coaching instruction in baseball; (2) to ascertain whether visual aids were used in previous graduate theses and in books covering basic hitting fundamentals; (3) to review literature on the basic hitting fundamentals; (4) to

develop visual aids for more effective teaching of the basic hitting fundamentals.

II. DEFINITION OF TERMS USED

The following definitions are used:

The bat. The official bat shall be "a smooth, rounded stick composed entirely of hardwood. It shall be one piece of wood or several pieces bonded together. . . ."¹

The official ball. The official ball shall be "a sphere formed by yarn wound around a small core of cork, rubber or similar material and covered with two strips of white horse-hide or other authorized material tightly stitched together."² Its weight must be five to five and one fourth ounces and its circumference nine to nine and one quarter inches.

The batter's box. The official area within which the batter must stand during his time at bat is the batter's box.

The count. The count is the number of balls and/or strikes on the batter.


²Ibid., p. 4.
The follow through. The follow through is the action of the hitter and bat immediately after the rebound of the ball from the bat.

The grip. The grip is the position of the batter's hands on the bat.

The hitter. The hitter is the offensive player who takes his position in the batter's box awaiting a pitch; he is also called the batter.

Home plate. Home plate is "The five-sided slab of whitened rubber or other suitable similar material."\(^1\)

The pitch. The pitch is the ball being delivered to the batter by the pitcher.

The pitcher. The pitcher is "The defensive player who is designated in the score book as being responsible for delivering (pitching) the ball to the batter."\(^2\)

The stance. The stance is the position that the hitter takes in the batter's box and the postural relationship of the body to home plate during the pitch.

The stride. The stride is the act by the batter of stepping forward with the front foot as the ball is being delivered toward home plate.

\(^1\)Ibid., p. 6. \(^2\)Ibid., p. 11.
The strike zone. The strike zone is the area over the plate and from the hitter's knees to his shoulder blades that represents pitches that will be called strikes by the umpire.

The swing. The swing is the act of moving the thick part of the bat toward the ball by the hitter as the ball is being delivered toward home plate.

The umpire. The umpire is the game official.

III. THE PROCEDURE

The following steps were taken under procedure for the study:

1. Review available literature.
2. Prepare tentative commentary outline.
3. Organize camera sequences:
   a) number
   b) type
   c) angle
   (1) 35 millimeter slides
   (2) 16 millimeter motion picture film
4. Photograph first set of camera sequences.
5. Analyze and edit slides and motion picture film.
6. Retake set of camera sequences to obtain those found undesirable from first set.
7. Analyze and edit visual materials: both the slides and film.

8. Compile and organize the data.

9. Prepare commentaries to coincide with the visual aids (see Appendix).

10. Present the summary and conclusions.

The review of literature is divided into two parts: (1) visual aids in books and books on the basic hitting fundamentals; (2) theses, books, and other materials explaining the basic hitting fundamentals.

I. VISUAL AIDS

The thesis. Francisco in his study dealt with three major divisions: (1) the prerequisites of a good hitter; (2) the fundamentals of good hitting; (3) and the major hitting faults.\(^1\)

He used twenty-three photographs, five and one-fourth inches by five and one-fourth inches, as visual aids to

CHAPTER II

REVIEW OF THE LITERATURE

In the review of the literature, the investigator studied Master's theses topics from 1955 to the present and selected those which would pertain to his project. Next, the selection of outstanding books on the fundamentals of baseball, including coverage of the hitting game was made. From professional journals and magazines other information was taken to provide necessary data.

The review of literature is divided into two parts: (1) visual aids in theses and books on the basic hitting fundamentals; (2) theses, books, and other materials explaining the basic hitting fundamentals.

I. VISUAL AIDS

The theses. Francisco in his study dealt with three major divisions: (1) the prerequisites of a good hitter; (2) the fundamentals of good hitting; (3) and the major batting faults.¹

He used twenty-three photographs, five and one-fourth inches by five and one-fourth inches, as visual aids to

support his study. Of the twenty-three visual aids used in
the study, fourteen were on the basic fundamentals of good
hitting. There was one each of the strike zone, prelimin-
ary of hitting, plate coverage, and the other six were on
major batting faults. All of the visual aids presented
were clear and meaningful. The photographs were attached to
the pages of the thesis, following the resume describing
each photograph. In his bibliography the author used three
books, a number of periodicals, and materials from the
National Little League Headquarters.

Tarrant, in his study, used seven illustrations as
visual aids. The illustrations were:

1. A good position for a batter in the batter's box.
2. A rubber batting tee.
3. A mental batting tee.
4. A ping-pong gun and balls.
5. A number of striped baseballs.
6. A Dudley pitching machine.
7. A rating sheet on hitting.¹

Only one of the seven illustrations in Tarrant's study was
a visual aid showing a basic hitting fundamental.

In his bibliography, Tarrant used five books, a few

¹Joseph Tarrant, "Batting Skills and Techniques" (un-
published Master's thesis, Danbury College, Danbury, 1961),
pp. 1-69.
periodicals, and personal interviews with two professional baseball players, a high school, and a college coach.

Film was used by Nieman to analyze the baseball stance, one of the basic hitting fundamentals. A cinematograph, a machine for projecting moving pictures on a screen, was used by Nieman in order to make his analysis of the batting stance.¹

The studies by Francisco, Nieman, and Tarrant were the only theses found by the investigator that gave a significant part of their project to the basic hitting fundamentals. These studies suggested that little has been accomplished in the organization of visual aids on basic hitting fundamentals for individual or group instruction.

The books, How to Improve Your Baseball has twenty-seven photographs to help in the instruction of hitting fundamentals. The photographs show the bat selection, the grip, the stance, the stride, the swing, and the follow through.²

Kuenn and Smilgoff in their book have a seven page series of motion picture photographs separated into selected


slide type sequences. There are an additional seven series of photographs with nine to ten photographs in each set. Harvey Kuenn was the subject of the filmed photographs.¹

Mann had one illustration on bat selection, two showing grip, and sixteen top view illustrations on the stance and stride characteristics of famous righthanded and lefthanded hitters in his publication.²

Meany and Walker used twenty-five illustrations in their book to facilitate the learning of basic hitting fundamentals. Four illustrations on grip, fifteen on stance, three on swing, and three on the follow through were included.³

Siebert's book contained twenty-four photographs on the fundamentals of hitting. Two photographs on the grip, ten on the stance, five on the stride, three on the swing, and four on the follow through were shown. Siebert's publication had excellent photographs on the basic hitting fundamentals as well as other areas of baseball.⁴


Smilgoff in his book does not have any visual aids on the basic hitting fundamentals in his chapter entitled "Fundamentals of Batting."\(^1\)

There were three illustrations of stance in the publication, *Baseball From Little League to Big League.*\(^2\)

The writer felt that three of the books reviewed had adequate visual aids which could be used for hitting instruction.

II. BASIC Hitting FUNDAMENTALS

The bat selection. "Bat manufactures found that second growth ash meets the requirements of ball players most satisfactorily; it has the tensile strength required, the resiliency, and can be obtained in fairly light weights."\(^3\) Toporcer suggested that the hitter should swing a number of bats before choosing the one that feels good in his hands. The lighter bat, with good ash wood, will propel the ball just as far as the heavy bat because the increased speed of the lighter bat will increase the impact. Ash wood, thirty-four to thirty-six inches long is the type of bat he preferred.\(^4\)

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\(^4\)Toporcer, *op. cit.*, p. 119.
An even-grained ash or hickory wood furnishes the best material when choosing the bat. The hitter's physical characteristics should determine the weight and length of the bat.

During batting practice the hitter can experiment with different bats in order to make his selection. Once the player has made his selection he should use that one only. After using the bat for a period of time it will feel more comfortable to him.¹

Smilgoff explained bat construction in relation to selection. White ash, hickory, and persimmon wood should be used in making baseball bats. They are the best woods for driving power and durability. Some bats have a knob on the handle end and others do not. Some bats are top heavy with too much weight in the hitting end of the bat, and are therefore, more difficult to control.²

Stan Musial thought that each hitter must decide for himself what type of bat he will use. Heavy or light, thick or thin, he must not let the bat swing him.³

Kuenn and Smilgoff believed that the hitter's batting style, the hitter's size, and the pitcher's ability determine

¹Clary Anderson, "Hit the First Good One," Scholastic Coach, (February, 1956), 12.

²Smilgoff, op. cit., p. 4.

the selection of the bat.¹

Today's hitter uses a thin-handled bat that should enable the batter to whip the hitting portion of the bat at a greater speed. Meany and Walker cite Dick Groat, who stated:

When I first came up I was using the light, thin-handled stick just as the big sluggers do. With the combination of the thin handle and the quick wrist, the power hitter is able to bring the bat around quickly and pump the ball out of the park. Hitters like Dick Hoak and myself cannot get the bat around that fast and, not having the raw power to enable them to consistently hit home runs, the thin handle, by not providing good hitting all the way down, is a handicap to the spray hitter. Micky Vernon, a former American League batting champ and at the time I came up to the majors a coach with the Pittsburg Pirates, suggested I use a heavier bat. I found that I could get this type of bat out in front, lay it on the ball, and with the added weight hit the ball harder—although I was not swinging as hard. With the thicker handle and the heavier bat, the ball seemed to literally jump off the bat.²

Dick Siebert mentioned that many players use a heavy bat thinking that they will have more power and homeruns. The hitter should not pick his bat just because of the autographed name on it. Hitters are better off if they avoid the two extremes, too heavy or too light. Thirty-one and thirty-three inch bats should be used by the American Legion and high school players. Slightly larger ones should be


²Meany and Walker, op. cit., pp. 4-6, citing Dick Groat.
used by college and professional players. Check the bat for flaws in the wood.¹

"Lateral deviation of the grain should not be more than one in thirty-five for a distance of fifteen inches measured along the bat toward the butt end and starting the measurement four inches from the knob end of the bat."²

Brashness is an abnormal condition that permits wood to break suddenly and completely across the grain, rather than splinter, under conditions where a normal piece of wood would not fail. . . . Brash pieces can sometimes be detected because of the abnormally low density and hardness, ascribed to that type of wood. . . . A common cause of brashness is the prolonged exposure of the wood to high temperatures in kiln drying.

The number, size, and position of the knots will determine its ability to cause a flaw in the wood:

In portions of the bat other than the critical area, which is an area ten inches long beginning at a point four inches from the knob end, sound knots not exceeding one-sixteenth of an inch in diameter shall be permitted provided both do not extend through the bat and are not closer than three-quarters of an inch measured center to center.³

A shake is the result of a rupture of cell tissues and cell walls during growth. It can be less than one inch or several inches in length. This defect weakens the grain and will cause further splitting. Such ruptures are circumferential openings between annual rings.


²Bourquardez and Heilman, op. cit., p. 36.

³Ibid., p. 305.

⁴Ibid., p. 36.
A fleck is usually confined to hardwood. It usually appears as a small round or lunated-shaped area of wound tissue and is usually darker than the surrounding tissue. Along the grain, in a baseball bat the flecks appear in dark streaks of varying length.

A check is a small break caused by too rapid and unequal shrinkage. It always runs perpendicular to the grain.

Warping is always the result of unequal shrinking or swelling.¹

The bat must be hard, close, straight grained, free of loose knots, flat surfaces, or evident splits and shakes.² Pretaped or covered bat handles may conceal a possible wood defect.

Lew Watts told of the relationship between the size of the bat and power:

There has long been a rather widespread belief in the idea that the size of a bat, both its length and weight, have strong bearing on the driving power of the man who wields it. The feeling is that the larger the bat the greater the distance the ball will travel when hit.

It is true to a certain extent, that a longer and heavier bat will enable a hitter to drive the ball farther, contingent upon his ability to control that bat. Unfortunately, it is extremely unlikely that any but the strongest of batsmen can handle an extra large bat with adequate control. Thus, the big stick frequently makes perfect timing impossible to all but a small minority of players.³

The importance of weight and length in bats is stressed by Smilgoff:

¹Ibid., p. 306.  
²Ibid., pp. 36-37.  
The weight and length of bats are important, particularly when applied to individual strength and hitting style. Bats that run one ounce to the inch have been found to be most desirable from the standpoint of balance, durability, driving power, and effectiveness. Most professional players use bats thirty-four or thirty-five inches in length and the same number of ounces in weight. A thirty-three inch and ounce bat is acceptable, particularly for high school players. However, it has been difficult to get durable wood in weights lower than those just mentioned. Thirty-six inch and ounce bats are usually too big and heavy for boys of high school age. It requires considerable strength, experience, and hitting ability to use these bats effectively.¹

Toporcer mentions the light bat:

One of the advantages of using a comparatively light bat is that it provides the player with better bat control. A light bat will enable him to wait a fraction of a second longer before committing himself. That split-second difference will aid him from swinging at many bad pitches.

He will also be better able to hold back on half-swings consequently, he will cut down both his strikeout total and the number of strikes called against him.²

The size and weight of the bat selected by each player will help to determine his prowess in hitting. The selection is not always easily made; Eagleson and Johnson discussed the task of bat selection by professional baseball players:

Professional baseball players, especially the established hitters, spend hours searching through timber stacks in the storage yards of bat companies for just the right billets. The expert judgment of

¹Smilgoff, op. cit., p. 5.

²George Toporcer, "Coaching Your Hitters," Scholastic Coach, (February, 1964), 34.
professional players regarding bat specifications has been acquired as a result of long and tedious hours of experimentation under practice and game conditions. The professional player knows that for the extremely important job of hitting he must supply himself with bats turned to meet his particular requirements.¹

There are several different points of view concerning the selection of a proper bat for the individual hitter. The size and weight of the bat may vary, but the all important factor must be consistent control. Francisco summarized the different points of view of bat selection in this manner:

Baseball experts are in general agreement as to the kind of bat to be used. They contend that size—that is, length and weight—will vary according to a batter's strength and other physical attributes. They said the important consideration is bat control. The bat should permit easy handling and enable the player to cope effectively with any kind of pitch. Most boys tend to pick a bat that is a little too heavy for them. It is wiser to pick one that the hitter can "whip" easily. To assure the batter proper bat control, caution should be taken to pick a handle of proper grip and control the bat.²

The grip. On grip, Weiskof stated:

The grip should be comfortable and firm, but not tense and tight. A batter will find it effective to grip the bat where he can swing it best. He can do this by shaking hands with the bat. Most hitters align the second and third knuckles, kept loose, but as the batter starts


swinging and his arms come around, his hands and wrists tighten, giving him power at the right time.1

According to Kuenn and Smilgoff, there are three kinds of grips: the choke, the modified-length, and the full-length grip. The physically strong players who go for the long ball use the full-length grip. The line drive hitters who take a good swing at the ball and are satisfied with a large number of base hits and a smaller number of home runs use the modified-length grip. This grip is taken one or two inches away from the handle end of the bat. Some hitters find they meet the ball more accurately, therefore, they employ the choke grip.2

Watts wrote on holding the bat:

Although differences exist in the positioning of the hands, there is great uniformity in the grip itself.

The bat should be held forward in the hands. That is, it should be gripped primarily by the fingers--not seated well back in the palms. This provides better "feel," which makes for greater responsiveness and quicker reactions to a pitched ball.

The fingers of the front hand should be in control as the swing is started, ready to pull the bat through its arc of forward motion.

Establishing contact with any degree of authority requires a great force of resistance on the part of the bat, and this, in turn, demands a firm grip. Whereas the initial grip should be firm, it should not, however, be so tight as to cause tension sufficient enough to impair proper coordination and a fluid swing.3

In discussing power hitting Watts said this about the grip:

Most long-ball hitters hold the bat at the very end. The extra length thus afforded provides more leverage by enlarging the arc in which the bat moves. This, of course, makes for greater driving power. It also means that for every movement of the bat handle there is proportionately greater movement of the hitting surface, making complete control of the bat more difficult to achieve.

In order to gain added leverage, some outstanding hitters have resorted to tucking the little finger of the lower hand under the knob of the bat. Lou Gehrig and Jimmy Foxx, both all-time greats, were two who used this method to increase the length of their bats and thereby gain that added leverage.

Buck Lai explained how to grip the bat properly. The hitter should shake hands with the bat. A righthanded hitter extends his left hand and grips the bat near the end of the handle. He then puts his right hand on the bat so that the small finger touches the index finger of the left hand. He shifts his right hand, the knuckles of each in a straight or nearly straight line. This is the grip for maximum power.

Ty Cobb mentioned the grip as the first of his tips on batting:

Do not grip the bat at the very end; leave about an inch or two. Also, leave at least an inch or more space between the hands; that gives you better balance and control of the bat, and also keeps the hands from interfering with each other during the swing.

---

The importance of the method employed in finding the correct grip for the individual batter may vary from person to person, and indeed, from authority to authority. George Toporcer does not agree with the hands-apart grip so favored by Ty Cobb:

Since even the great batters of Ty's own era saw no advantage in adopting the style so stoutly advocated by Cobb, it certainly would be foolish for present-day players, particularly those with power, to follow his example.

The whiplike snap of the upper wrist, so very important in generating power, would be lost completely with the hands-apart grip. Though it is true this grip might cut down strikeout totals, why sacrifice power for that objective, especially since the conventional grip did not keep the stars from hitting for tremendous averages?¹

Tarrant told of the loss of power that would result if a batter should hit either cross-handed, or with his hands spread apart. Later, he stated that it may be correct to spread the hands apart when hitting to a certain area on the field; but most coaches thought that the hitter should keep his hands together. Choking-up on the bat by the hitter decreases the potential power of the batter while increasing his ability to meet the ball.²

Although the bat may be gripped a number of ways the hitter should not clutch or hold the bat too tight. The proper firmness of grip helps the wrist action during the

¹Toporcer, op. cit., p. 36.
²Tarrant, op. cit., pp. 3-4.
swing. The large strong player usually grips the bat at the end. The smaller player normally chokes up on the handle an inch or two.¹

Fonseca gave his view on grip:

There are no fixed limits for bat grip. Some grips are as much as six inches up on the bat. Just find a grip that suits you and feels right and stick to it.

Whatever your choice, be sure to put the bat well back in the palms of the hands and wrap your fingers around it so both closed fists are pointed away from the body like a fighter's fists. This is essential.²

Meany and Walker are a little more detailed in their discussion of the proper grip:

The grip or manner of holding the bat involves two important factors—position of the hands upon the bat and maintenance of proper degree of firmness.

The controlling factor in determining the best position for the hands is the degree of wrist freedom. Keeping this in mind will assist in understanding the various methods employed by major leaguers. The finger joints of both hands in line, a grip that affords the wrist a great deal of play and is favored by hitters seeking bat control. A second method is used by most power hitters. The finger joints of the top hand are in line with the knuckles of the bottom hand. The wrists do not have quite as much play, but there is adequate flexibility and a greater firmness than is found in the previous method.

One last word about the grip concerns the hands. During their playing days, both Cobb and Wagner held their hands a few inches apart. Today almost every ball player keeps his hands close together in order to get more whip into the ball.³

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¹Anderson, op. cit., p. 12.
The stance. The hitter should use his "natural" style if it does not violate some basic principle of hitting. He should choose the stance that feels most comfortable to him. Toporcer lists some other points to check for stance:

1. The hitter must be relaxed.
2. The hitter should have his weight evenly balanced on both feet waiting for the pitch.
3. The hitter's stance should give a good basis for a full swing.¹

The most comfortable stance is the hitter's best one. More weight should be on the front foot than the rear one. This gives him balance which should prevent him from pulling away from the ball. Many coaches want the hitter to meet the ball in the strike zone, and out in front of the body. In order to do this, the hitter would have to stand in the back half of the batter's box.²

Fonseca put forth his beliefs on the stance:

Take a comfortable stance with your weight evenly distributed. A good batter may stand deep in the batter's box, like Stan Musial, or close to the plate like Ted Williams, or in the center of the box.

He may stand straight up or in a crouched position. He may use a wide foot spread or a narrower stance.³

²Weiskopf, op. cit., p. 16.
Tarrant stated what he thought was the correct position of the feet in stance:

The position of the feet when the hitter enters the batter's box is of prime importance. In describing the correct batting stance, the starting point will be the feet, and then follow up the body for correct procedure. The feet should be placed at a comfortable distance apart with the weight distributed evenly on the balls of the feet, while awaiting the pitch.¹

Michael agrees with Tarrant's statement but explains it more fully:

A hitter's body should be held erect or in a slight crouch. His shoulders and hips should be level. His weight should be distributed on the balls of his feet, and his feet should be spread comfortably. The open or closed stance can be used. We favor the spread stance. The distance a hitter stands away from the plate will vary with his size and the length of his arms.²

The stance which feels most comfortable for the individual hitter is usually the correct one to assume. A relaxed stance will assist the hitter in his power. Anderson speaks of this in detail:

The stance should be comfortable and relaxed, with the weight uniformly distributed. Though a definite crouch is to be discouraged, a slight crouch can help in bringing the eye level a bit lower and nearer to the strike zone, affording a better look at the pitch.

A somewhat wide stance—a bit wider than the shoulders—is recommended. This helps cut down the stride, which, in turn, reduces the possibilities of lunging, hitting off the front foot, and being off-balance when the ball is pitched.

¹Tarrant, op. cit., p. 7.

The feet should be set about the middle of the box, just enough away from the plate to reach any ball on the outside corner and permit the fat part of the bat to cross the plate. The feet should be kept parallel with one another, with the toes pointed toward the plate. If it feels more comfortable, the batter may open his front toe a bit.

The hips and shoulders should be kept level, and the knees slightly flexed. The bat should be held back, but definitely not on the shoulder. A position opposite the rear shoulder is just about right. To promote a clean, free, unhindered swing, the arms should be kept away from the body—the front arm well away and the back arm a little away with the elbow pointing downward.¹

Meany and Walker stated that the individual player is advised to adopt a stance that is comfortable and one that will help him in what he is trying to achieve.² A rule to be noted is that there are many different stances, and if a player can hit with his stance, then the coach should not tamper with it.

The parallel stance, with the legs moderately spread apart, is the stance used by most players in the big leagues. The stance has both power and body control that enables the hitter to adjust to any pitch.

The closed stance enables the hitter to add more power to his swing if he can control his body weight during the longer stride. Without proper control of his body the hitter would be ineffective in this stance. There are different variations of the closed stance as well as the other stances.

¹Anderson, op. cit., p. 12.
The pull hitter used the open stance. The back foot is nearest the plate and the front foot is pointed toward his strength.

According to Meany and Walker, "No matter what stance is used the hitter must always be in position to guard the plate adequately. . . . The hitter's stance should not enable the pitcher to gain the additional advantage of having a portion of the plate unprotected."\(^1\)

Watts explained the three types of stance:

There are three types of stances used universally—the open, the normal, and the closed stance.

The open stance is one in which the batter's rear foot is closer to the plate than his front one. He stands almost facing the pitches, a fact which enables him to get a better look at the ball. The open stance hitter has a decided tendency to meet the ball well out in front of the plate and is usually particularly strong on inside pitches. Minnie Minoso is a good example of the open stance hitter.

The so-called normal stance finds the batter's feet in an almost parallel line, with his front hip and shoulder facing the pitcher. The majority of major leaguers use this type of stance, with Ted Williams serving as a good example.

The closed stance is one in which the front foot is closer to the plate than the rear foot, with the batter watching the pitcher over his front shoulder. Joe Adcock can be cited to illustrate the closed stance.\(^2\)

In another article, Lew Watts emphasized the hitter's body balance in the stance. The sequence of motion must be


smooth; improper body balance would provide interference.

Watts explains:

His shoulders and hips should be level and his weight evenly distributed. The importance of good balance cannot be over estimated. It must be maintained throughout every phase of the swing, since a slight imbalance at any point will be greatly magnified in the full sequence of motion.

It is for this reason that a moderately wide stance is advocated. This makes for good balance, helps maintain the hips and shoulders on a level plane, and promotes a smooth shifting of the body weight into the swing. Furthermore, a fairly wide stance is usually a comfortable one.1

Lai explains the body position in the stance more fully. The entire body must be considered in relation to the proper stance in order to accomplish the greatest hitting ability:

The hips should be kept on a plane level with the ground. This prevents uppercutting or hitting down on the ball...

The shoulders should also be kept on a plane level with the ground, for the same reasons. A batter who drops his front shoulder may be either a ground-ball hitter or an uppercutter.

The arms should be kept away from the body. This means the upper part of the arms, shoulder to elbow, as well as the lower part of the arm, elbow to wrist.

A batter should get as much leverage as he can. To do this he should describe as wide a horizontal arc as possible.

The head plays an essential role in hitting. First of all, the batter must keep his eye on the ball at all times—from the time he sees it in the pitcher's hand until it makes contact with the bat or he lets it go by him into the catcher's mitt.

Many a hitter thinks he is keeping his eyes on the ball as it nears him, but at the moment he starts his swing—then the ball is closer to him and is probably going to take off, dip, hook, flutter, or curve—he inadvertently turns his head and loses sight of the ball.¹

Vision and stance were discussed by Watts:

No matter which stance a batter finds most to his liking, it should afford him a maximum view of the pitcher at all times. In this respect, it can prove helpful to alter the stance according to whether the pitcher is a right or left-hander.

A left-handed batter may open his stance slightly when facing a left-handed pitcher and close it when opposed by a right-hander. By the same token, a right-hand batter may increase his vision by opening his stance against a right-handed hurler and closing it slightly when a southpaw is on the mound.²

Lai mentioned the importance of a quiet bat:

While awaiting the pitch, the batter may be doing several things wrong. Perhaps the most common mistake is keeping the bat in motion. This can ruin a batter's timing. The pitcher may deliver the ball between "waves" and force the hitter to hurry his swing—destroying its smoothness and power.

The good hitter keeps his bat "quiet," holding it motionless as the ball is approaching. He is thus always ready to bring his bat into play quickly and effectively.³

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¹Lai, op. cit., pp. 52-53.
³Lai, op. cit., p. 52.
The use of the wide closed stance can be used if the hitter can control his body weight.¹

Kuenn and Smilgoff talked about individual stances:

Stan Lopata of the Philadelphia Phillies and Gene Baker of the Pittsburgh Pirates use an exaggerated crouch. They have their reasons for doing so. Stan Musial, many times national league batting champion, has his own natural stance which makes him look as though he were peeking around a corner at the pitcher. Ted Williams and Mickey Mantle stand fairly straight while awaiting the pitch. The stance must feel natural to the hitter. It must be loose and relaxed. Tenseness hinders quickness and accuracy.²

The individual stance may vary from player to player. Indeed, what is natural and relaxed for one may well be cramped and uncomfortable to others. For each individual stance, however, certain rules must be followed. Kuenn and Smilgoff sum this up in this manner:

A batter's stance must be peculiarly his own; it should reflect his hitting personality. The stance should be natural and comfortable and should indicate what the batter is trying to do. Is he simply trying to meet the ball for line drives, or is he going for the long ball where it is pitched? Is he trying to cover up a weakness, or can he hit all types of pitches? . . .

How far a batter stands from the plate depends on his hitting personality. He should be able to cover the plate well enough to be able to hit inside and outside pitches.³


²Kuenn and Smilgoff, op. cit., pp. 21-22.

³Kuenn and Smilgoff, op. cit., pp. 21-22.
The stride. The stride is a matter of force and resistance. The use of the stride, permitting the using of the body weight, along with the grip and the swing, can provide a greater resistance and anchorage to help the swinging bat overcome the force of the ball. In a good stride the proper balance of body weight goes into the hitter's swing.

The body weight should never be ahead of the swing.

Jackie Robinson explained the stride:

Sisler showed me how to delay and keep the weight back of me until I started to swing on the ball. It was so different that I actually laughed at myself. I never believed a swing could feel so different. But keeping my weight back and well balanced as I started the swing enabled me to do anything I wanted to with the pitch—chop it, pull it, slice it to right, wade into it or pass it up—all before the weight of my body shifted completely to the front foot.¹

The stride of the individual may vary as greatly as the stance; it must be a natural part of the sequence of motion. Mann explains this fact:

Joe DiMaggio, Ted Williams, Gil Hodges, Honus Wagner, Lou Gehrig, Ralph Kiner, Hank Sauer, etc. should not be copied unless the copiers understood why they use the stance. Their weight was easily shifted because they were tall, and each lifted the front foot only slightly. DiMaggio took no more than an eight-inch step. Ted Williams sometimes wriggled only his front or right knee, indicating that the weight shift was taking place. Kiner took a small step. Honus Wagner lifted his heel, turned it, and then bent his knee as the weight shifted to bolster his swinging bat.²

Michael gave his views of the short stride normally

¹Mann, op. cit., pp. 107-109, citing Jackie Robinson.
²Mann, op. cit., p. 109.
used, by the wide stance hitters:

This stride should be from six to eight inches. There should be very little forward movement of the hitter's head and body. He should start the forward stride the instant the ball leaves the pitcher's hand. The ball should be hit just after the stride and not with it. The hitter should wait a split-second after the stride in order to judge the pitch. Then he is ready to hit if the ball is in the strike zone. The stride should be taken as the ball leaves the pitcher's hand. Then the hitter can judge the ball after his eyes and head have lowered with the stride. A baseball reaches in the plate in two-thirds of a second. The hitter must get a look at it as soon as possible after it leaves the pitcher's hand.¹

Mann told of the longest stride ever seen, used by Roger Hornsby, the greatest of all right-handed hitters:

His right foot was always at the outside rear corner of the batter's box, usually with the heel outside. His feet were not far apart, because his weight was always on his rear foot. He would lift the front or left leg and stride in, almost diagonally toward the front inside corner and when his bat came around he completely covered the strike zone. . . . Hornsby was a batter with no weakness, yet few hitters could cover the strike zone from the outside corner. Evidently very few could use the long stride and still keep the weight on the rear foot.²

If not properly accomplished the stride can throw the swing off and cause the hitter to lose his timing. Fonseca considered the following fundamental a "must":

As the stride takes place, the hands, bat, and weight moves backward away from the stride, waiting on the pitch. Then—the weight starts forward against a firm front leg—eyes on the pitcher—head held rigid—most of the weight at this point on the rear leg. Then—

¹Michael, op. cit., pp. 43-44.
²Mann, op. cit., p. 110.
all-important split-second wait on the pitch before the hands and bat start moving forward. This is the most important fundamental of good batting—hitting just after the stride, not with the stride.

Between the stride and the swing is that split-second wait before hitting. You can control your timing on the pitch. Remember this: Every three-hundred hitter in the big leagues follows this one fundamental rigidly. Yes, everyone of them strides first and then hits in split-second action with the hands in complete control of the situation.

There is no wasted energy and little body movement used while waiting on the pitch. The weight is shifted forward, but not until the ball is hit—holding maximum power for that crucial moment of impact.  

The stride of each hitter will vary; however, there are specific points to be followed that will allow for individuality. Meany and Walker told of the proper way to stride:

The weight is on the back foot. The pitch is on the way, and the hitter shifts his weight from an equal balance on the balls of both feet, until it is predominantly on the back foot. Weight as a moment ago lends adaptability to the hitter's body. The shift to the back foot takes place so that the hitter's weight is placed behind the stride and becomes an added force that will drive into the ball. The hitter still remains on the balls of his feet; to do otherwise is fatal to the proper swing, and it will limit the type of pitch he can hit. . . .

The hitter moves the front leg forward. By striding forward and keeping his eye on the ball, the hitter has put himself in a preparatory position from which to make a choice of whether or not to take a cut at the ball, keeping in mind that he wishes to wait as long as possible before committing himself, he does not completely release his weight off his back foot. Also keeps the striking power of his hands and hips in

The stride is discussed by Jack Richards:

It is true that hitting styles differ greatly but during the forward swing of the bat the mechanics are basically the same. Of course, these mechanics may differ with the variations in pitches—the high, low, inside, and outside pitches determine the plane and the path of the arc. Basically, regardless of whether the arms are held in close or away from the body, the stance is open or closed, the stride is six or sixteen inches, the bat is held straight up and down or parallel to the ground, etc., the fact is that after the front foot is planted, the movements are practically identical.

Only in recent years has it been discovered that a player strides to hit, not strides and hits. The bat does not begin its forward swing until the foot nearer the pitcher is planted and the leg nearer the pitcher has ceased its lateral movement. In plain words, this simply means that the stride does little more than place a hitter in position to hit. It is not the lateral movement of his leg or hips that provides the power, but rather it is a rotation of the hips around their axis which generates the force necessary in hitting.

In order for equilibrium to exist, the center of gravity of a body must fall within its base. When striding, very often batters shift the weight of their bodies to a position over the foot nearer the pitcher. In this position they have committed themselves and find their hips are locked, thus preventing the proper rotation of the shoulders and hips. Rather than remaining over the center of the base of support, the body's axis has shifted forward over the front foot. When the skill is executed properly, a step rather than a stride precedes the swing. By stepping, the leg nearer the pitcher moves forward, but the body weight is held back with the bat until the power is unleashed with the forward swing of the bat. Thus maximum hip and shoulder rotation is assured, and the body's axis is directly over the base of support.

This principle is often confusing to young baseball players who are overanxious and want to stride out and meet the ball.¹

Richards then questioned the use of the stride and presented data from a study to support his position:

If so many mechanical flaws occur as a direct result of misuse of the stride, and if a rotation of the hips and shoulders rather than a lateral movement of the body into the pitch is responsible for the power factor, why stride? . . . .

A study was made to determine whether the use of the stride in batting is justified in all cases. A group of relatively inexperienced high school players was divided into two equal groups on the basis of general motor ability tests, and after being given a preliminary test to insure equivalence of the groups with which to compare final results, the boys were given batting instruction for a period of four weeks. . . .

In the preliminary batting ratings, there was no significant difference between the two groups in terms of contact percentage and striking power. . . .

In the final test after the instruction and practice, the group of non-striders showed marked improvement in contact percentage, while the change in striking power was insignificant for both groups. . . .

The results indicate that the use of the stride in batting does not contribute to striking power and may often hinder contact percentage.²

The proof offered by Richards cannot be accepted as the final position to be taken concerning the use and misuse of the stride and its results. The correct use of the stride has been proven to be a valuable aid in increased hitting


²Richards, op. cit., p. 44.
power as shown by professional ball players. Thus it seems that Richards' conclusions are more opinion than fact.

Toporcer listed some steps of the stride:

1. The hitter should keep his weight about equally balanced on both feet as he awaits the pitch.
2. The hitter should shift his weight to the back foot as the pitch starts.
3. The hitter should step into the pitch so that he will meet the ball out in front of the plate.
4. The hitter in stepping into the pitch should transfer his weight from the rear leg to the front foot.
5. The hitter should not overstride, as this will cause him to lunge at the pitch throwing off his timing.
6. The hitter should widen his stance at the start, if he tends to overstride frequently.¹

Kuenn and Smilgoff made these observations:

The length of the stride is a matter of personal taste. It is related to the batter's arm and wrist strength. Generally speaking, physically large strong sluggers can take a wide stance and use a short stride because they can depend more on their arms and wrists to hit the ball. Physically small players often need a larger stride and more body momentum to swing the bat fast and hard enough.²

Siebert gave his view outlining the stride:


²Kuenn and Smilgoff, *op. cit.*, pp. 22-23.
1. The hitter starts the stride by pushing off the inside of the rear foot.

2. The hitter should keep his stride low and short.

3. The hitter should keep his weight on the balls of his feet as he strides.

4. The hitter should step away from the plate a little and point the toe more toward the pitcher, if the pitch is inside.

5. The hitter should step toward the plate and point his toe toward right field, if the pitch is outside.

6. The hitter should stride straight ahead, if the pitch is down the middle.

7. The hitter should delay his stride as long as possible.¹

Varied strides are used by different hitters. Physical characteristics and personal selection determine the one that is used. The importance of balance cannot be over emphasized.

"Authorities agree that the short stride for beginners, would insure less loss of motion and would reduce the movement of the head and the eyes. The step or stride should be a sliding one approximately six to twelve inches."²

¹Siebert, op. cit., pp. 126-127.

²Francisco, op. cit., p. 38.
The purpose of the stride is to shift the body weight into the swing.

The swing. Kuenn and Smilgoff discuss the swing:

A free level natural swing is basic for good hitting. On a good swing the bat is propelled forward with a whipping action, that is well controlled by quick wrists and agile hands.

The swing is started with the body weight above the rear leg. The weight accompanying the swing should actually be transferred from the rear to the front leg as the ball is being hit so that the bat meets the ball with the weight of the body slightly behind the swing at impact. The swing should begin from as near the bat's starting position as possible. When the wrists "cock" before the swing, the "cocking" should begin tightening the grip on the bat at the start of the swing and continue to tighten gradually until the bat meets the ball. The swing should be as parallel to the ground as possible. A level swing means increased batting accuracy.

Swinging the bat away from the body gives greater swinging freedom, more speed, and better leverage.¹

Ted Williams gave his version of how hard a batter should swing:

I'd say a good batter should try for eighty or eighty-five per cent of his absolute capacity. And when I'm talking about "swing" here, I'm referring to his arms swinging along with the turn of his shoulders and hips. In other words, he should have the feeling that there might be a little something left in his arms, shoulders, and hips—that he hasn't used it all completely.

But, coupled with this eighty to eighty-five per cent swing, the batter should use one hundred per cent of his hands and wrists. Don't overswing your arms because this can upset your timing and throw you off balance, which wastes your power. But never let up one bit in the hands and wrists. You can't overdo this...

¹Kuenn and Smilgoff, *op. cit.*, pp. 24-25.
I swing hard and fast and take what they call "an honest cut." But I don't try to set any records with the swing of my arms and shoulders—it's the wrists and hands that I go all the way out with.¹

"Trigger" action, the action of the hands and hips as the bat meets the ball, determines the power behind the swing as told by Meany and Walker:

He has decided to commit himself to the pitch; having made his preparatory stride, with the factors of power—hips, hands, and weight—still well back and ready for action, he thrusts his weight forward and whips the bat into the ball at the moment the triggers release their power. As the bat meets the ball, the hitter's wrists roll over; his wrist action gives both power and snap to the batted ball.²

The swing is covered by Siebert:

As the swing starts, the weight is over the back leg. The hitters should try to keep it back as long as he can and concentrate on wrist action. The bat is held back as the hands and arms come forward.

The back arm is bent at the elbow, and the elbow is close to but free of the body. The front arm is almost straight and away from the body. The hands are also well away from the body.

As the swing continues, the weight begins to shift from the back to the front leg as the back heel comes off the ground. The hands are still well ahead of the large end of the bat. The hitter should check the forearm closely, and he will notice that the hands are beginning to tighten as the hitter gets ready to snap his wrists.

Now the bat is really "whipped" forward, and the large end of the bat is "thrown" at the ball as the wrists snap in line with the swing, and the back arm straightens. The back hip is also "whipped" around as the front hip is thrown out of the way.

The weight of the body is still a little behind the swing as the ball is being hit, but it is now more over the front leg. The front leg is braced, with the knee slightly bent. The eyes are "glued" on the spot where the ball is hit.¹

The sequence of motion in the swing includes action in all parts of the body. These actions must be correlated to provide the greatest hitting power. Watts describes these aspects in this manner:

The front shoulder should remain facing the pitcher until just before the swing. This closely tied in with the lagging of the hands behind the stride and is a great safeguard against the loss of power resulting from getting out too far ahead of the ball.

Rotary hip action is absolutely essential to a good swing and actually starts the movement of the shoulders. This hip action is the key link in the chain which extends from the start to the finish of the swing. Rotation of the hips not only starts the movement of the shoulders and pulls the weight into the swing properly so that the ball is met with full power, but it leads the body through the continuous flow of motion into a good follow-through.

The proper hitting zone for the hands is behind the center of the body. The fact that the ball should be met in front of the plate might lead to some confusion here. To clarify the matter in his mind, the reader must take into account the fact that the stride and hip pivot precede the actual swing in such a way that, due to the partial completion of the body pivot, the ball can be met in front of the plate while it is still behind the center of the body.

The wrists should be held back in the hitting zone as long as possible. The combination of these two principles helps assure maximum power both by delaying the wrist snap until the moment of impact and by making the batter speed up the snap in order to get around on the ball while it is still in front of the plate. . . .

¹Siebert, *op. cit.*, p. 128.
The hips and shoulders, which were level during the original stance and the stride, should remain so during the swing. As the bat moves out across the plate, the front arm should be held firm and should be straightening out until it is perfectly straight at the point of impact. When the arms straighten out, the swing reaches its point of maximum power. The roll of the wrists occurs at this time and carries this chain of action through to its proper completion.

The hands should be literally whipped into the swing. The batter should try to visualize himself swinging a rope the length of his bat, with a weight tied to the end of it. The motion necessary to swing the weighted rope effectively is similar to the one which will best whip the bat into the oncoming pitch. The fat part of the bat coincides with the weight at the end of the rope in this imagined situation.

The ideal swing is a level one; that is, parallel to the ground. The position of the hands at the start of the swing can be adjusted according to the height of the pitch, so that the sweep of the bat will be parallel to the ground whether the ball comes in high, low, or belt high.1

Sievers mentioned waiting until the last moment before swinging; "learn to wait as long as you can before swinging. Waiting is the secret of hitting."2

Williams said, "Since the battle between pitcher and batter is decided in a fraction of a second, the hitter, to be successful cannot be lazy or sluggish with his hands. Yet he wishes to wait as long as possible."3


Anderson told about the swing:

The bat should be whipped forward on a level plane, with the full power of the shoulders and hips behind it. The swing should be hard but controlled, with contact being established just in front of the plate.

If the batter has done everything right, his front leg will be straight at contact and his back knee bent with the foot up on the toe.\(^1\)

A level swing is necessary in power hitting and sometimes must be developed. If the stance is proper, a level swing will be more easily maintained. Michael discusses the level swing in this way:

If a hitter maintains level hips and level shoulders, he will take a level swing. He should not lower his front shoulder because this movement will make him chop at the ball. He should not drop his rear hip or rear shoulder. This movement will cause upercutting and easy fly balls. A level bat will be in the same plane as the ball for a longer period of time, making it easier to hit. Minor adjustments of the wrists and hands up or down will help to keep the swing level for high or low pitches.\(^2\)

Toporcer discussed the level swing:

There is always a good deal of talk about having a batter use a level swing. Actually, the swing is not level, nor can it be, on pitches below the belt; however, a level swing is desirable. If the hitter cocks his rear elbow, keeps his head down, and follows the course of the pitch, he will automatically produce the desired level swing.\(^3\)

The authorities agree that many young players in

\(^1\)Anderson, op. cit., p. 13.

\(^2\)Michael, op. cit., pp. 44-45.

\(^3\)George Toporcer, "Coaching Your Hitters," Scholastic Coach, (February, 1964), 78.
general try to overpower the ball and end up barely getting the bat on the ball or striking out. The experts think that these hitters should concentrate on trying to meet the ball rather than trying to go for the long ball by swinging too hard. The well controlled swing is necessary.

The follow through. "Immediately after the ball is hit, the wrists roll over. They do not roll before or as the ball is hit, because this would take away much of the hitter's power."¹ Also, many bats would be broken.

The roll over takes place as the bat is starting to come around to the follow through position.

The hips and shoulders continue to pivot as the hitter allows his bat to follow through naturally over the rear shoulder. The front foot now has all the body weight on it.

As the follow through continues, the weight shifts to the outside edge of the front foot and pivots on the ball of the rear foot.²

Michael described the follow through:

A hitter's entire body is used in a proper follow through. His weight is transferred to his front leg when the ball is hit, his wrists and hands are rolled, and his arms and shoulders bring the bat in back of the hitter's body. He should hold on to the bat with both hands and shoulders, bring the bat with both hands

¹Siebert, op. cit., p. 129.
²Ibid., p. 129.
throughout the follow through. The momentum of the bat should not be stopped. As the ball is hit, the front elbow points down, the back elbow and arm straighten out, and the back heel is raised. This follow through is essential for maximum power at the plate.1

In his study, Francisco drew conclusions concerning the follow through and power:

A good follow through is absolutely essential to achieving maximum power. It also affords proof of whether most, if not all, of the basic fundamentals have been observed.

A hitter's entire body is used in proper follow through. His weight is transferred to his front leg when the ball is hit, his wrists and hands are rolled, and his arms and shoulders bring the bat in back of the hitter's body. He should hold on to the bat with both hands throughout the follow through. The momentum of the bat should not be stopped. As the ball is hit, the front elbow points down, the back elbow and arm straighten out, and the back heel is raised. The follow through is essential for maximum power at the plate. When properly executed, hear a real "crack" of the bat contacting the ball, and the ball will take off.2

According to Meany and Walker, "An incomplete follow through with the bat stopping at the time contact is made with the ball would result in a diminution of power. The body normally leans in the direction of the batted ball, indicating good weight control."3

In concluding, there appears to be general agreement on many points of the basic hitting fundamentals among the

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1Michael, op. cit., p. 45.
2Francisco, op. cit., p. 55.
3Meany and Walker, op. cit., p. 47.
experts. There are, however, varied ideas, opinions, and some differences on parts of hitting. This is due to the fact that some authorities stress certain scientific laws and principles while others stress other laws and principles, both being applied to the same basic fundamental of hitting. The fact that hitting is a very complex and intricate skill to perform, to describe, or to develop should also be noted.
CHAPTER III

SUMMARY AND GENERAL CONCLUSIONS

Summary. Few theses dealing with baseball devote a significant part of their materials to some aspect of the basic hitting fundamentals. A number of commercial publications displayed visual aids, but few did it adequately from the instructional standpoint. There are a number of viewpoints on most of the aspects of the basic hitting fundamentals. The periodicals, Scholastic Coach and the Athletic Journal, had an abundance of material on these fundamentals, but these materials were scattered throughout a number of years and most articles dealt with only a part of the elements of basic hitting instruction.

General conclusions. Thus, the need for a more adequate supply of visual aids for group instruction is apparent. By making use of such aids as are included with this report, a coach can cover the basic fundamentals of hitting in a general manner to the group at large. (See Appendix for narrations to accompany the slides and film.) Then, in a later part of the session, or indeed, in a following session, individual attention may be given. This would accomplish a maximum of skill teaching and personal instruction in a minimum amount of time.
The purpose of this study was fourfold: (1) to upgrade coaching instruction in baseball; (2) to ascertain whether visual aids were used in previous graduate theses and in books covering basic hitting fundamentals; (3) to review literature on the basic hitting fundamentals; (4) to develop visual aids for more effective teaching of the basic hitting fundamentals.
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THE NARRATION

The Preliminaries

Although these preliminaries are not basic hitting fundamentals, they are necessary to the hitter before he is given the fundamentals. The narration refers to right-handed hitters unless otherwise stated.

The pitch. (Slide 1) The hitter should know the angle at which the pitcher’s arm releases the ball; the amount of hop, break, rise, or dip on the fastball indicates whether the pitch will go in or out of the strike zone. The curve ball or change of pace are judged by speed of pitch, its arc in flight, angle and amount of break.  

(Slide 2) The distance from the front of the pitcher’s rubber to the rear of home plate is 60' 6 1/2"; the ball enters the strike zone after travelling 90' 7", the distance to the front of home plate. It takes a pitch of good speed three ten-thousandths of a second to travel from the pitcher's hand to the catcher's glove. 2

The strike zone. (Slide 3) The strike zone is a rectangular area suspended (anodized) in midair directly over home plate. The strike zone extends from the batter's

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1Kohn and Safford, op. cit., pp. 99-100.
2Jann, op. cit., p. 46.

APPENDICES

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THE NARRATION

The Preliminaries

Although these preliminaries are not basic hitting fundamentals, they are necessary to the hitter before he is given the fundamentals. The narration refers to right-handed hitters unless otherwise stated.

The pitch. (Slide 1) The hitter should know the angle at which the pitcher's arm releases the ball; the amount of hop, break, rise, or dip on the fastball indicates whether the pitch will go in or out of the strike zone. The curve ball or change of pace must be judged by speed of pitch, its arc in flight, angle and amount of break.¹ (Slide 2) The distance from the front of the pitcher's rubber to the rear of home plate is 60' 6"; the ball enters the strike zone after traveling 59' 1", the distance to the front of home plate. It takes a pitch of good speed five-tenths of a second to travel from the pitcher's hand to the catcher's glove.²

The strike zone. (Slide 3) The strike zone is a rectangular area suspended lengthwise in midair directly over home plate. The strike zone extends from the batter's

¹Kuenn and Smilgoff, op. cit., pp. 49-66.
²Mann, op. cit., p. 46.
shoulders to the top of his knees; any pitch inside of or touching a part of the zone is a strike. The vertical measurements of the strike zone are flexible since they depend on the batter and his natural hitting stance.\(^1\) Normally the height of the strike zone is two and one-half feet. A batter who assumes a crouch stance may lower the zone to two feet, and a hitter who stands up straight may increase the zone to three feet. The width of the strike zone (the white rubber on the plate) is seventeen inches plus the diameter of the ball which would add two and three-fourths inches on the inside and two and three-fourths inches on the outside of the plate, depending on the pitch. Thus, five and one-half inches are added to the seventeen inch plate making the width of the strike zone twenty-two and one-half inches.\(^2\) It is important, whenever possible, for a player to follow with his eyes every pitched ball all the way to the strike zone, so that he will become familiar with the zone and can judge balls and strikes more accurately.

The count. (Slide 4) According to Kuenn and Smilgoff, "The ball-and-strike count theoretically changes the size of the strike zone in the minds of both pitcher and batter, depending on who is ahead in the count."\(^3\)

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\(^1\)Ibid., p. 23.

\(^2\)Kuenn and Smilgoff, op. cit., pp. 30-31.

\(^3\)Ibid., pp. 36-37.
The strikeless hitter can afford to be stingy in visualizing the size of his zone. I often take a pitch on the corner for a strike. Many of our players feel the same way I do about letting the corner strike go, providing it is a first strike. I feel that the next strike may be a better ball to hit, and if I am forced to hit a pitch on the corner, I am only going to do so with at least one strike on me.

WITH A ONE STRIKE COUNT ON ME—I try to visualize a slightly larger strike zone than I would with no count on me. This is done to avoid being too fussy about a pitch on the corner.

WITH A TWO STRIKE COUNT ON ME—I try to visualize my maximum strike zone since a pitched ball barely on the corner may be called a third strike.

WITH A ONE BALL COUNT ON ME—I picture a slightly smaller zone, because I can easily afford to take a pitch on the corner. I can recall doing this many times against major league pitchers and still getting a good pitch to hit.

WITH A COUNT OF TWO BALLS AND NO STRIKES—I often establish a rather small zone, because I can easily afford to take a pitch I don't like. If the pitcher does come into the strike zone with a good pitch, I tee off.

WITH A COUNT OF THREE BALLS AND ONE STRIKE—my visual image of the strike zone is approximately the same as when I have a 2-0 count. Of course, our manager must have the hit sign on if I'm going to swing at a good pitch. With a 3-2 count on me, I like to visualize a large strike zone to avoid the possibility of being called out on a questionable strike.¹

The umpire. (Slide 5) The previous experience of the umpire must be considered in his picture of the batter's strike zone. By closely watching an umpire's calls you can often interpret his idea of the strike zone.

¹Ibid., p. 37.
The pitcher. (Slide 6) The pitcher's control affects the size of the strike zone. Pitchers who have a reputation for wildness or lack of control are less apt to get strikes called on borderline pitches than the good control pitchers.

The hitter. (Slide 7) A good hitter, one who knows his strike zone, and who has a habit of swinging at good pitches, usually gets the breaks on the borderline pitches. The poor hitter or strike out victim, who consistently lets good strikes go by without swinging, usually does not get the advantages on the borderline cases. The umpire feels that the hitter just does not know the strike zone and thus is more apt to let strikes go by.

The preliminaries of basic hitting fundamentals must be understood in order to get a maximum of learning out of the teaching of the basic hitting fundamentals themselves. The hitting fundamentals will then be learned in relationship to the possible hitting surroundings in which the hitter will be asked to perform.

The Fundamentals.

Upon reviewing the literature, the investigator realized that there are varied viewpoints on hitting instruction. Nevertheless he had to select materials that he thought would be best for basic hitting fundamentals instruction. The author selected data for the narration after a thorough
research of the literature in the field. Other influences that helped determine the narration were: (1) the coaches' time allotment for the presentation; (2) the level or ability of the learner to comprehend the instruction; (3) the experience of the author; (4) the opportunity for individualized instruction. The fundamentals will now be presented.

The bat. (Slide 8) Pick a bat that you can control or maneuver easily. The length of the bat can go up to forty-two inches.¹ Scraping or taping the handle within eighteen inches of the handle is legal.² This helps the player that is having trouble with his grip or the one that is hindered by the bat slipping out of his hand.

The grip. You grip the bat as though you are shaking hands with it. (Slide 9) Check the trademark.³ In gripping a bat, the player must always remember that the longer swing and the longer grip lessen the chance of making contact with the ball. To understand the distal-end control and the effect of swing, you must learn the simple "law of lever." This law states in effect that still hands mean a still bat end; that if you move your hands slightly, either from anxiety,

¹Mann, op. cit., p. 102.
²Meany and Walker, op. cit., p. 196.
³Siebert, op. cit., p. 123.
nervousness, habit, or unnatural position, the large end of the bat will move correspondingly more. \(^1\) (Slide 10) The hitter should choke up two or three inches from the bottom of the bat. The middle knuckles of the top hand should be lined up somewhere between the middle and the base knuckles of your bottom hand. \(^2\) Gripping the bat too tightly at the beginning of the swing causes the hitter to lose the flowing motion of his swing. The looseness of the wrist and forearm allow the bat to be whipped forward, where tenseness forces the swing to sweep forward rather than whip ahead. The bat should be held firmly but not too tightly. During the swing, the firm grip on the bat gradually tightens until the bat meets the ball.

The stance. (Slide 11) Make sure that the bat can cover the plate with two inches to spare when leaning over the plate from your position in the batter's box. \(^3\) Various stances are used. Notice the position of the feet in relationship from a parallel line drawn along the near edge of the plate. They all fall under three basic categories:

1. (Slide 12) The parallel or square stance (both feet are an equal distance from the parallel line drawn along the near edge of the plate).

\(^1\)Mann, op. cit., p. 119.

\(^2\)Meany and Walker, op. cit., pp. 18-19.

\(^3\)Siebert, op. cit., p. 124.
2. (Slide 13) The open stance (the feet placement in this stance is the same as the parallel stance except that the left foot is facing the pitcher, therefore, opening up more of the hitter's body to the pitcher).

3. (Slide 14) The closed stance (the left foot is closer to the parallel line drawn along the near edge of the plate than the right foot).

(Slide 15) The feet should be about shoulders' width apart with the front foot turned slightly toward the pitcher.\(^{1}\) The weight is evenly distributed, but slightly forward on the balls of the feet; heels on the ground. The stance must allow the hitter to be relaxed, loose, natural, and free:

a) (Slide 16) Keep your head still.

b) Keep your chin tucked in close to your front shoulder.

c) Your hands are up or chest high, held over the rear foot.

d) Your arms are comfortably away from the body; elbows up.

e) Your shoulders and hips are level.

f) Your knees and hips are bent slightly.

g) The bat is held high:

(Slide 17)

(a) Horizontal to the ground

\(^{1}\)Meany and Walker, \textit{op. cit.}, p. 11.
(Slide 18)
(b) Vertical or perpendicular to the ground
(Slide 19)
(c) Halfway between horizontal and vertical
(h) Slide 20) Keep the bat quiet, still, ready.
i) Look for the ball as soon as you are in your stance.

The stride. Delay the stride until you know the pitch. The stride in hitting has one specific purpose: to make sure the weight is on the rear foot in the early part of the swing. Weight on the rear foot means that the arm and bat will have anchorage to provide resistance against the swinging force of the bat.¹ (Slide 21) Your stride toward the pitch starts by pushing off the inside of the rear foot, keeping the leg firm and the knee slightly bent. (Slide 22) The stride is low and short, not more than twelve inches displacement of the lead foot from the original stance. Keep the weight on the balls of the feet as you stride. (Slide 23) The hitter rotates his hips and shoulders to the right a little (toward the catcher) and the front knee flexes slightly as he strides.² (Slide 24) This helps keep the weight back, delays the stride, and gives more power to the hitter.

¹Mann, op. cit., p. 108.
²Siebert, op. cit., pp. 126-127.
The swing. (Slide 25) The swing should begin from as near the bat's starting position as possible. The body weight is above the rear leg; and the hitter should swing, leading with the elbows. (Slide 26) The hands and arms come through first pulling the bat through. (Slide 27) The eyes follow the ball. (Slide 28) Now, the right hip is pivoting forward. As the swing continues, the weight smoothly begins to shift from the right leg to the left one. The bat is moved forward, and the large part of the bat is thrust toward the ball as the back arm begins to straighten. As the swing continues, the bat smoothly increases speed; the hands and wrists gradually tighten their grip on the bat; you see the impetus of the bat meeting the ball out in front of the hitter but still behind the center of the body. The wrists should begin tightening the grip on the bat at the start of the swing and continue gradually until the bat meets the ball. (Slide 29) The weight of the body is still a little behind the swing as the ball is hit; the front leg is braced and slightly bent as you are hitting against it. (Slide 30) The right hip completes its arc as a part of the follow-through. The swing should be as parallel to the ground as possible. Swinging the bat away from the body gives greater swing freedom, more speed, and better leverage. It also permits the batter to cover

1Kuenn and Smilgoff, op. cit., p. 24.
the plate more easily.¹

The follow through. Immediately after the ball is hit, the wrists 'roll over'. The weight is now entirely on the front foot. (Slide 31) The weight continues to shift to the outside edge of the front foot. (Slide 32) The back foot is in the same spot as before, but the hitter is now on the ball of the rear foot as he finishes the follow through.

¹Ibid., pp. 24-25.
PREFACE FOR THE MOTION PICTURE FILM

This action film can be used as a supplement to reinforce skills viewed in the slides or as a separate visual aid. The film can be utilized in various ways for either group or individualized instruction. Specific points of emphasis should be established before the presentation.

Some suggestions are listed:

1. To show individual styles of hitting.
2. To point out strengths or weaknesses in particular styles of hitting.
3. To demonstrate the relationships of basic hitting fundamentals.
4. To reveal faults in the basic hitting fundamentals.
5. To prove basic hitting fundamentals are present in different styles of hitting.
6. To show selected frames in the major areas of basic hitting fundamentals.

The method of employing the film will be dependent on the needs of the group or individual as determined by the coach or player. The ultimate value can only be obtained by careful previewing.