

EFFECT OF VISUAL SKILLS TRAINING ON THE BATTING PERFORMANCE OF NCAA DIVISION I BASEBALL PLAYERS.

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Abstract

PURPOSE: To investigate the effect of visual skills training on the batting skills of NCAA Division I (DI) baseball players. **METHODS:** A pretest-posttest control group design was used to determine if a commercial software program designed to assess and train visual skills, had a significant effect on the batting skills of NCAA DI baseball players. Eighteen (N = 18) male subjects from the Texas A&M University-Corpus Christi intercollegiate baseball team were studied at the conclusion of the 2007 Fall baseball season. Subsequently, no structured team batting practice took place during the study. Subjects were randomly assigned to a treatment group or control group. Each subject was tested for visual skills to determine eye alignment, eye flexibility, visual recognition, visual memory, and visual tracking. A composite score was also calculated for each subject, which was used to establish personalized training protocols. Batting performance was determined for each subject by measuring batted-ball velocity due to its high positive relationship with eye/hand coordination and the ability to maximize bat/ball contact (center of percussion). A pitching machine was used to maintain a constant pitch speed of 76-80 MPH. Each subject received two rounds of six swings for a total of twelve attempts. The batted-ball velocity (mph) of each attempted swing was measured by a digital sports radar gun and an average batted-ball velocity was calculated for each subject. The treatment group received visual skills training three times per week over a five-week period for a total of fifteen sessions. Training periods lasted an average of ten minutes per session. Data analysis included a t-test for independent samples, which was performed on the posttest batted-ball velocity data. **RESULTS:** A significant difference ($p = 0.10$) existed between the batted-ball velocities of the treatment group (52.6 ± 19.6 mph) and control group (35.1 ± 28.0 MPH). Due to a small sample size, a significance level of 0.10 was utilized to reduce the chance of a type II error. **CONCLUSION:** The results of this study indicate that NCAA DI baseball players that received visual skills training produced significantly higher batted-ball velocities than NCAA DI baseball players that did not receive visual skills training. **PRACTICAL APPLICATION:** Coaches and players attempting to enhance batting performance may consider the addition of visual skills training to their practice and training program. **ACKNOWLEDGEMENTS:** This study was funded by a grant from the Center for Educational Development, Evaluation, and Research (CEDER) at Texas A&M University-Corpus Christi.



Purpose

To investigate the effect of visual skills training on the batting skills of NCAA Division I (DI) baseball players.

Subjects

Eighteen (N = 18) male subjects from the Texas A&M University-Corpus Christi intercollegiate baseball team were studied at the conclusion of the 2007 Fall baseball season.

Methods

Each subject was tested for visual skills to determine eye alignment, eye flexibility, visual recognition, visual memory, and visual tracking. A composite score was also calculated for each subject, which was used to establish personalized training protocols. Batting performance was determined for each subject by measuring batted-ball velocity due to its high positive relationship with eye/hand coordination and the ability to maximize bat/ball contact (center of percussion). A pitching machine was used to maintain a constant pitch speed of 76-80 MPH. Each subject received two rounds of six swings for a total of twelve attempts. The batted-ball velocity (mph) of each attempted swing was measured by a digital sports radar gun and an average batted-ball velocity was calculated for each subject. The treatment group received visual skills training three times per week over a five-week period for a total of fifteen sessions. Training periods lasted an average of ten minutes per session. Data analysis included a t-test for independent samples, which was performed on the posttest batted-ball velocity data.

Statistical Analyses

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Methods & Results

Results

A significant difference ($p = 0.10$) existed between the batted-ball velocities of the treatment group (52.6 ± 19.6 mph) and control group (35.1 ± 28.0 MPH).

Conclusion

The results of this study indicate that NCAA DI baseball players that received visual skills training produced significantly higher batted-ball velocities than NCAA DI baseball players that did not receive visual skills training.

Practical Applications

Visual skills training is a relatively new training technique used to enhance athletic performance. Coaches and players attempting to enhance batting performance may consider the addition of visual skills training to their practice and training program.



Acknowledgements

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#	NAME	Final Score out of 100	EYE Alignment Number	EYE Alignment (After or Before)	Depth Perception 0 to 4	Convergence Percent	Convergence Station Score	Divergence Percent	Divergence Station Score	Visual Recog Resp Time 0.5 to 4.0	Visual Recog % Correct	Visual Tracking Resp Time 0.1 to 4.0	Visual Tracking % Correct
	Highest Possible Score	100.00	0.00		4.00	100.00	77.00	100.00	77.00	0.50	100.00	0.10	100.00
	Lowest Possible Score	0.00	11.00		0.00	0.00	0.00	0.00	0.00	4.00	0.00	4.00	0.00
1	Easley, J	89.72	2.00	A	4.00	100.00	59.00	100.00	64.00	1.97	97.00	0.35	97.00
2	Haynes, J	79.76	0.00		4.00	95.00	36.00	89.00	16.00	2.18	83.00	0.47	99.00
3	Jerolman, C	90.37	0.00		4.00	100.00	70.00	96.00	26.00	0.96	99.00	0.39	99.00
4	Van Kirk, B	76.86	2.00	A	4.00	97.00	23.00	96.00	23.00	2.80	95.00	0.37	98.00