Analysis of coaching behaviors of golf instructors using a systematic approach

Jongwon Paik

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ANALYSIS OF COACHING BEHAVIORS OF GOLF INSTRUCTORS

USING A SYSTEMATIC APPROACH

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Kinesiology

by
Jongwon Paik
June 2008
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June 2008
Approved by:

Hosung So, First Reader

Stephen J. Kinzey, Second Reader

Date 6/5/2008
ABSTRACT

The purpose of this study was to examine and analyze the coaching behaviors of golf instructors to find the distinctive characteristic coaching behaviors. A total of four (Female = 2; Male = 2) golf instructors were selected.

To collect data, each participant was asked to demonstrate their "best" lessons for 30 minutes and complete a demographic questionnaire.

A systematic computer software (i.e., BEST) was used to analyze the data. The results showed that coaches provided feedback to their athletes approximately every 30 seconds and the single largest category of the participants' behavior was silence. However, when seven categories (pre-instruction, concurrent instruction, post-instruction, questioning, physical assistance, positive modeling and negative modeling) which are directly related to the instruction (Lacy & Barst, 1989) were combined, instruction became the largest behavior of all behaviors. In addition, the praise to scold ratio and the positive to negative modeling ratios were approximately 4:1 and 3:1, respectively.
ACKNOWLEDGEMENTS

To my advisor, Dr. Hosung So, I really appreciate your guidance and motivation. I believe that this thesis would not have been done without your encouragement and support.

I would like to thank Dr. Stephen J. Kinzey for serving as my thesis advisor, encouraging me, and reviewing my thesis.

I also would like to thank my coach Tony Manzoni, John Daddio, Mitch Moncrief, Erik Wolf, Georgia Richards, Dr. Den, and Chankuk Yang who helped me to open my eyes to the golf coaching world.

I would like to give special thank to my friends Heather Beneš and Bongkun Kim for helping me in many ways.
DEDICATION

To my beloved wife Jeayun who was, and is my best friend of my life.

To my two children, Harry and Jun, who are the greatest pleasure and joys in my life.

To my parents, Jungnam Paik and Moonja Kim, who always give unconditional love and encouragement.
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CHAPTER ONE
INTRODUCTION

Background

Golf is one of the popular sports in the world both for men and women. In 2005, according to the KPMG Golf Course Development Cost Survey (2005) it was estimated that there were 32 thousand golf courses in the world and 50 million people played golf. In addition, almost every week hundreds of PGA and LPGA players from all over the country play for the tournaments and thousands of golf fans gather to watch the games. America is the biggest country supporting the golf business. According to the National Golf Foundation (2006) there were approximately 16,000 golf facilities and 28.7 million golfers in America. Half of the world golf courses and populations are in the United State. Indeed, the industry’s business worth is tremendous and the population is rapidly growing. This remarkable golf population results in an increased need for golf coaches and golf schools. Golf coaches help players in many ways, such as technical teaching and psychological training. Like many other sports players, golfers depend on golf instructors for their skill improvement.
To this end, a coach can be defined as "a professional whose occupation is to assist athletes and athletic teams in the enhancement of sport performance" (Pate, McClenaghan, & Rotella, 1984, P.4). To increase levels of the players' performance coaches play the role of teacher and manager (Watson & Tharpe, 1990). In addition, coaches regard sport as a scientific study and put value on practice and result (Figone, 1994). Ultimately, coaches work to max out a player's performance. As with other sport's coaches, golf coaches train and help golfers to maximize their players' outcome. They instruct and analyze golfers' swing and give lessons and feedback. They advise and motivate players for the finest result. Coaches prepare and provide the best practice environment. However, every single coach has their own teaching styles and the outcomes are not always the same. Thus, these diverse coaching methods can be a ruler which shows what coaching styles are efficient, and what is not.

According to Weinberg and Gould (2003), coaching efficiency comes from a coach's ability to diagnostic skill, to affect the psychological skills, and to influence a positive attitude toward sports through years of experience. Furthermore, efficient coaches provide optimal
encouragement based on a broad knowledge and strong self-monitoring skills (Gilbert, 2005). To find out the characteristics of effective coaching behaviors in sports fields, many observation systems such as ASUOI, LOCOBAS, and CBORS (Darst, Mancini, & Zakrajsek, 1983) have been developed and utilized. Consequently, the outcomes yielded from these systematic observation tools have greatly contributed to the study of sports science (Cushion & Jones, 2001). Researchers have enabled a clear understanding and analysis of coaching behaviors through the development of a systematic observation method as a collecting data device (Lacy & Goldston, 1990).

Statement of the Problem

As Tharp and Gallimore (1976) first reported observation data on basketball coaching behavior, the number of research studies about coaching behavior in a range of sports have been reported (Darst, Mancini, & Zakrajsek, 1983). These coaching behavior analysis includes data from many popular sports such as hockey (Trude & Cote, 1996), basketball (Bloom, Crumpton, & Anderson, 1999), soccer (Potrac, Jones, & Cushion, 2007), volleyball (Stewart & Bengier, 2001), and archery (Van der Mars &
Darst, 1991). Their findings contribute vital information to the science of sports by reporting on the specific and diverse characteristic of coaching behaviors.

Golf is one of the major sports in the world and the business size worth was estimated at $60 billion dollars in 2003 (Perkins, 2006). In addition, according to Golf Magazine (2005, February), there are approximately 25,000 golf instructors in the United States. However, no systematic observation has yet been done for golf coaching behaviors. Thus, this thesis, which focuses on golf coaching behaviors, will contribute to the science of coaching methods in golf.

Purpose of the Study
The purpose of this project will be to examine and analyze the coaching behaviors of golf instructors in the Palm Springs area to find the distinctive characteristic coaching behaviors. Primary data collection will be from video recordings of selected instructors’ lessons to investigate the distinctiveness of golf coaching. The Arizona State University Observation Instrument (ASUOI) (1989) will be used as the data collection tool. Also, Behavioral Evaluation Strategy and Taxonomy (BEST) will be
used to analyze the coaching behaviors data. This project will provide useful information and a detailed descriptive analysis of coaching behaviors in golf.

Limitations of the Study

Some of the limitations of this study results from the small number of participant. Coaching styles could change according to a student’s skill level; however, because of the limited number of participants, students’ skill levels were overlooked when collecting data. Moreover, all participants were selected only from the Palm Spring area.

Definition of Terms

A. ASUOI is defined as “The Arizona State University Observation Instrument” designed to collect information on the behaviors of coaches in practice setting (Lacy & Darst, 1989).

B. COSG is defined as “The Coaches Observation System for Games.” That is an observation tool especially developed to account for coach behaviors during games (Trudel & Cote, 1996).

C. BEST is defined as “Behavioral Evaluation Strategy and Taxonomy” which is a computerized system for collecting
real-time observational data (Sidener, Shabani, & Carr, 2004).

D. LOCOBAS is defined as "Lombardo Coaching Behavior Analysis System." That focuses interaction between the coaches and other participants and the quality of the interaction. (Darst, Mancini, & Zakrajsek, 1983)

E. CBORS is defined as "Coaching Behaviors Observation Recording System" which is a behavioral observation instrument. (Darst, Mancini, & Zakrajsek, 1983)
CHAPTER TWO
REVIEW OF THE LITERATURE

Systematic Observation in Sports

According to Stewart and Bengier (2001), as systematic observation in sports began in the late 1970's, approximately 20 studies have been published in a variety of sports, and this method has become common in analyzing coaching behaviors within the sports field.

Basketball

According to Lacy and Goldstone (1990), instructional behavior was the dominant action of basketball coaches in practice sessions. The purpose of their study was analyzing basketball coaches' coaching behaviors. The researchers recorded 10 varsity high-school girl's basketball head coaches' behaviors during practice sessions by using the Arizona State University Observation Instrument (ASUOI). The participants were five male and five female coaches who instruct in Texas.

In this study, the researchers found that the primary coaching behavior fell into the classification of direct instruction (49.6%) which includes pre-instruction, concurrent instruction, and post instruction. As well,
recorded was substantial time encouraging players (18.5%) measured by praise and hustle categories and practice management (15.3%). The praise to scold ratios of the coaching behavior was approximately 2:1 respectively and female coaches present a little more praise behavior and less scold behaviors than their male counterparts.

**Soccer**

A similar study on systematic observation in sport was conducted by Cushion and Jones (2001). Their study claimed top-level youth soccer coaches spend more than half of practice time for instructions and the teaching was directly associated with performance related tasks. Actually, the participants' direct instruction behaviors out weighed all other behaviors during practice sessions by a frequency of 56.61%. The second largest category observed was praising the athlete's outcome (14.76%) and the silence category, the period of time that coaches observe practice, followed at 10.45%.

The purpose of the study was to observe what high-quality coaches actually do in practice sessions. The researchers observed eight English (British) male professional youth soccer coaches who had at least 10 years experience in coaching. All of them were licensed coaches.
and their age range was between 30 and 62 years old. The researchers coded and quantified coaches’ behavior during usual practice sessions by using the Arizona State University Observation Instrument (ASUOI). The result of the study was not different from previous researches in soccer.

**Hockey**

In a study conducted by Trudel and Cote (1996), the subjects were coaches of the Quebec City region hockey league for 14 to 15 years olds. 14 coaches from 12 teams were observed during competition, of which, 13 coaches were male. The purpose of this study was investigating and examining hockey coaches’ behaviors to contribute to the in-depth study in science of coaching. Data were collected from videotaped recordings of 32 hockey games filmed. As a data analyzing tool the Coaches Observation System for Game (COSG) which classifies coaches’ behavior by 16 categories was used.

According to the research, coaches spent approximately half of the time (51.2%) observing their players’ action during a game. Subsequent behaviors included organizing (15%), direction the game (8.1%), and stimulation of the players (6.7%). However, during actual play time, coaches
gave relatively little information (6.1%), negative evaluation (3.8%), and positive evaluation (1.2%) which can all be classified as instruction.

Volleyball

Stewart and Bengier (2001) analyzed and examined volleyball coaches’ coaching behaviors during a summer volleyball camp. The researchers videotaped four coaches who participated in this summer high school girls’ volleyball camp with the trained observers recording the data. The participating coaches were two male and two female and all had university volleyball coaching experience. Researchers also provided three categories: management, instruction, and practice. These were used to analyze how time was used during practice sessions.

Through this research, it was found out that coaches let players spend most of their time exercising (62.2%) during practice sessions. This non-structured time was followed by the coaches’ verbal and nonverbal instruction (22.9%) and management (14.8%) categories. In this study researchers also found that in this environment, volleyball coaches provided intensive positive feedback with limited negative skill feedback in the ratio of 26:1.
Archery

Van Der Mars and Darst (1991) studied how archers spent their practice time. The researchers also examined archers’ practice patterns and coaches’ feedback patterns. The participants of the study were 12 coaches who have coaching certifications and 12 elite archers whose age range was from 16 to 33. Data was collected using audiotapes during one-on-one practice sessions.

According to the study, archers spent 54% of practice time shooting arrows and coaches gave feedback approximately every other time the archer’s shot. Furthermore, the majority (80.4%) of the coaches’ feedback was positive pattern; however, corrective feedback was less than 20%.

Finally, although previous researches came from different sports’ coaches and the date analyzing tool was not the same, all of the studies were conducted based on systematic observation. Consequently, coaching behavior studies which yielded from systematic observation gave exceptional contributions in sport science (Cushion & Jones, 2001).
CHAPTER THREE

METHODOLOGY

Participants and Settings

Participants for the study were two community college golf instructors and two professional golf instructors in the Palm Springs area. Seven coaches in the Palm Springs area were contacted by phone and asked to participate in the study. Four coaches gave positive response and their coaching behaviors were observed. Two coaches were male, and two coaches were female. The participants’ age range was from 33 to 55 years (M = 40.50 years; SD = 9.98). They had a minimum of 6 years coaching experience (M = 13.25; SD = 6.34). All coaches had a coaching certificate, and three of them had majored in golf at a college. To collect data on coaching behaviors, average 30 minutes of lessons were observed for each coach, and the coaches were also asked to complete a questionnaire, respectively. Three coaches were observed while giving private lessons and one coach were observed while giving group lessons. Three coaches gave lessons to advanced level golfers, and one coach gave a lesson to beginner level golfers.
Instruments

Arizona State University Observation Instrument (ASUOI)

ASUOI which was designed to collect coaching behavior data in practice session (Lacy & Darst, 1989) was used for this study. There are 14 behavior categories (Table 1) in ASUOI including 7 categories which are related to the instructional process (Lacy & Darst, 1989). As Lacy & Darst (1989) developed ASUOI, many studies were published in various sports fields using the ASUOI, such as soccer (Potrac, Jones, & Cushion, 2007; Miller, 1992; Cushion & Jones, 2001), basketball (Lacy & Goldston, 1990), and volleyball (Stewart & Beniger, 2001).

Behavioral Evaluation Strategy and Taxonomy (BEST)

BEST was used to analyze the coaching behaviors data in this study. BEST is a computer software developed to collect real-time observational data and can be used for the Windows operating system (Sidener, Shabani, & Carr, 2004).

Questionnaire

A questionnaire was close-ended and handed out to all participants in this study to collect gender, age,
### Table 1

**Behavior Categories and Definitions of the Arizona State University Observation Instrument**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of First Name</td>
<td>Use of first name or nickname when speaking directly to a player.</td>
</tr>
<tr>
<td>Pre-instruction</td>
<td>Initial information given to player(s) preceding the desired action to be executed.</td>
</tr>
<tr>
<td>Concurrent Instruction</td>
<td>Cues or reminders given during the actual execution of the skill or play.</td>
</tr>
<tr>
<td>Post-Instruction</td>
<td>Correction, re-explanation, or instructional feedback given after the execution of the skill or play.</td>
</tr>
<tr>
<td>Questioning</td>
<td>Any question to player(s) concerning strategies, techniques, assignments, and so forth with the sport.</td>
</tr>
<tr>
<td>Physical Assistance</td>
<td>Physically moving the player's body to the proper position or through the correct range of motion.</td>
</tr>
<tr>
<td>Positive Modeling</td>
<td>A demonstration of correct performance of a skill or playing technique.</td>
</tr>
<tr>
<td>Negative Modeling</td>
<td>A demonstration of incorrect performance of a skill or playing technique.</td>
</tr>
<tr>
<td>Hustle</td>
<td>Verbal statements intended to intensify the efforts of the player(s).</td>
</tr>
<tr>
<td>Praise</td>
<td>Verbal or nonverbal compliments, statements, or signs of acceptance.</td>
</tr>
<tr>
<td>Scold</td>
<td>Verbal or nonverbal behaviors of displeasure.</td>
</tr>
<tr>
<td>Management</td>
<td>Verbal statements related to organizational details of practice sessions, not referring to strategies or fundamentals.</td>
</tr>
<tr>
<td>Uncodable</td>
<td>Any behavior that cannot be seen or heard or does not fit into the above categories.</td>
</tr>
<tr>
<td>Silence</td>
<td>Period of time when the subject is not talking.</td>
</tr>
</tbody>
</table>

satisfaction level of their job, participant’s coaching certificate and education level.

Procedures and Data Collection

Each coach was observed for total 30 minutes for each typical lesson session and total the video recording time was 120 minutes. Every lesson was given at a driving range. As a data collecting device, JVC camcorder named Everio G was used. Before videotaping the selected participants’ golf lesson, two types of informed consents (appendix B) were given to and signed by the instructors. Additionally, it was constantly emphasized by the researcher that each participant should pretend there was no video recording during the lesson and give their best lesson as usual. The Questionnaires were handed out to the participants after finishing each taped lesson.

Data Analysis

Data analysis computer software program, BEST, was used for this study. Data were coded by the total number of pre-identified behaviors and calculated by the total seconds of behavior observed. Then the number of behaviors and total seconds of behaviors were divided by each behavior category to yield percentages.
CHAPTER FOUR
RESULTS

Analysis of Coaching Behaviors of Golf Instructors Using a Systematic Approach

Tables 2 and 3 represent the total percentage and frequency of behaviors for each defined category of the Arizona State University Observation Instrument (ASUOI) for the four participants during each lesson session.

Coaches' Behavior Patterns

The results reflect that in 7,200 seconds of observation, 389 separate behaviors were recorded. Table 4 shows that coaches give feedback to their athletes approximately every 30 seconds.

The single largest category of the participants' behavior was silence (43.13%), and this is in agreement with previous studies (Trudel & Cote, 1996; Van Der Mars & Darst, 1991; Miller, 1992). However, when seven categories (pre-instruction, concurrent instruction, post-instruction, questioning, physical assistance, positive modeling, and negative modeling) which are directly related to the instruction (Lacy & Darst, 1989) are combined, instruction becomes the largest behavior of all behaviors. Moreover,
Table 2

**Total Frequency of Behaviors for All Coaches**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Coach A</th>
<th>Coach B</th>
<th>Coach C</th>
<th>Coach D</th>
<th>Sum</th>
<th>% of frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>use of first name</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Pre-instruction</td>
<td>4</td>
<td>16</td>
<td>14</td>
<td>2</td>
<td>36</td>
<td>9.25</td>
</tr>
<tr>
<td>concurrent instruction</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>1.54</td>
</tr>
<tr>
<td>Post instruction</td>
<td>8</td>
<td>18</td>
<td>21</td>
<td>20</td>
<td>67</td>
<td>17.22</td>
</tr>
<tr>
<td>Questioning</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>15</td>
<td>3.86</td>
</tr>
<tr>
<td>Physical assistant</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>12</td>
<td>22</td>
<td>5.66</td>
</tr>
<tr>
<td>Positive modeling</td>
<td>10</td>
<td>6</td>
<td>15</td>
<td>2</td>
<td>33</td>
<td>8.48</td>
</tr>
<tr>
<td>Negative modeling</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>24</td>
<td>6.17</td>
</tr>
<tr>
<td>hustle</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Praise</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>34</td>
<td>8.74</td>
</tr>
<tr>
<td>Scold</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>8</td>
<td>2.06</td>
</tr>
<tr>
<td>Management</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>1.54</td>
</tr>
<tr>
<td>Uncodable</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Silence</td>
<td>22</td>
<td>24</td>
<td>35</td>
<td>57</td>
<td>138</td>
<td>35.48</td>
</tr>
<tr>
<td>Sum</td>
<td>77</td>
<td>81</td>
<td>102</td>
<td>129</td>
<td>389</td>
<td>100.00</td>
</tr>
</tbody>
</table>

The participants spent 3.26% of their lesson time in praise/scold categories and the praise to scold ratio was approximately 4:1. Similar to other sports coaches who were observed in previous studies (Lacy & Goldstone, 1990;
Table 3
Total Percentage of Behaviors for All Coaches

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Coach A</th>
<th></th>
<th>Coach B</th>
<th></th>
<th>Coach C</th>
<th></th>
<th>Coach D</th>
<th></th>
<th>Sum</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sec.</td>
<td>%</td>
<td>sec.</td>
<td>%</td>
<td>sec.</td>
<td>%</td>
<td>sec.</td>
<td>%</td>
<td>sec.</td>
<td>%</td>
</tr>
<tr>
<td>use of first name</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Pre-instruction</td>
<td>95</td>
<td>5.28</td>
<td>470</td>
<td>26.11</td>
<td>265</td>
<td>14.72</td>
<td>10</td>
<td>0.56</td>
<td>840</td>
<td>11.67</td>
</tr>
<tr>
<td>concurrent instruction</td>
<td>45</td>
<td>2.50</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>20</td>
<td>1.11</td>
<td>65</td>
<td>0.90</td>
</tr>
<tr>
<td>Post instruction</td>
<td>405</td>
<td>22.50</td>
<td>370</td>
<td>20.56</td>
<td>365</td>
<td>20.28</td>
<td>145</td>
<td>8.06</td>
<td>1285</td>
<td>17.85</td>
</tr>
<tr>
<td>questioning</td>
<td>195</td>
<td>10.83</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>15</td>
<td>0.83</td>
<td>210</td>
<td>2.92</td>
</tr>
<tr>
<td>Physical assistant</td>
<td>120</td>
<td>6.67</td>
<td>90</td>
<td>5.00</td>
<td>25</td>
<td>1.39</td>
<td>155</td>
<td>8.61</td>
<td>390</td>
<td>5.42</td>
</tr>
<tr>
<td>Positive modeling</td>
<td>235</td>
<td>13.06</td>
<td>140</td>
<td>7.78</td>
<td>340</td>
<td>18.89</td>
<td>45</td>
<td>2.50</td>
<td>760</td>
<td>10.56</td>
</tr>
<tr>
<td>Negative modeling</td>
<td>50</td>
<td>2.78</td>
<td>45</td>
<td>2.50</td>
<td>25</td>
<td>1.39</td>
<td>90</td>
<td>5.00</td>
<td>210</td>
<td>2.92</td>
</tr>
<tr>
<td>hustle</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Praise</td>
<td>45</td>
<td>2.50</td>
<td>30</td>
<td>1.67</td>
<td>25</td>
<td>1.39</td>
<td>85</td>
<td>4.72</td>
<td>185</td>
<td>2.57</td>
</tr>
<tr>
<td>Scold</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>5</td>
<td>0.28</td>
<td>45</td>
<td>2.50</td>
<td>50</td>
<td>0.69</td>
</tr>
<tr>
<td>management</td>
<td>60</td>
<td>3.33</td>
<td>0</td>
<td>0.00</td>
<td>40</td>
<td>2.22</td>
<td>0</td>
<td>0.00</td>
<td>100</td>
<td>1.39</td>
</tr>
<tr>
<td>uncodable</td>
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<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Silence</td>
<td>550</td>
<td>30.56</td>
<td>655</td>
<td>36.39</td>
<td>710</td>
<td>39.44</td>
<td>1190</td>
<td>66.11</td>
<td>3105</td>
<td>43.13</td>
</tr>
<tr>
<td>Sum</td>
<td>1800</td>
<td>100.00</td>
<td>1800</td>
<td>100.00</td>
<td>1800</td>
<td>100.00</td>
<td>1800</td>
<td>100.00</td>
<td>7200</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Stewart & Bengier, 2001), golf coaches spent more time praising than they did scolding. However, data in Figure 1
and Figure 2 indicate differences between individual golf coaches.

Table 4

Total Number of Feedback and Total Number of Feedback per Second.

<table>
<thead>
<tr>
<th></th>
<th>coach A</th>
<th>coach B</th>
<th>coach C</th>
<th>coach D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total feedback</td>
<td>55</td>
<td>57</td>
<td>67</td>
<td>72</td>
</tr>
<tr>
<td>Feedback / second</td>
<td>33</td>
<td>32</td>
<td>27</td>
<td>25</td>
</tr>
</tbody>
</table>

Difference Between Individual Coaches

Figure 1 presents positive to negative modeling ratio during the instruction. Overall the positive to negative modeling ratio was approximately 3:1. While coach A, coach B, and coach C spent more of their instruction time for positive modeling than negative modeling, coach D spent more time for negative modeling than positive modeling. The ratio of positive modeling to negative modeling of coach D was approximately 1:2.

Figure 2 shows the ratio between instruction and silence. While coach D spent more time in the silence
category than the instruction category, coach A, coach B, and coach C spent more time in the instruction category during the lesson. In addition, coach A, coach B, and coach C spent as much as twice the time for instruction than coach D.

![Bar chart showing positive to negative modeling ratio for all coaches during instruction.](image)

*Figure 1. Positive to Negative Modeling Ratio of All Coaches During the Instruction.*
Figure 2. Instruction to Silence Ratio of All Coaches During the Instruction.
CHAPTER FIVE
CONCLUSION AND DISCUSSION

Conclusion and Discussion of the Study

10. The purpose of this study was to analyze the coaching behavior of golf coaches. Result was not so difficult form previous studies which observed other sport’s coaches; however, individual golf coaches’ behavior differences were obvious.

10. Many previous studies showed interest in praise to scold ratio (Lacy & Goldstone, 1990; Stewart & Bengier, 2001) but did not focus on the positive to negative modeling ratio. In slight contrast then, the finding from this study shows that the participants demonstrated not only a tendency to give more praise than scold, but also utilized a pattern of more positive modeling than negative modeling with their athletes (Figure 1).

4. It was expected that there would be differences between genders in coaching behaviors in physical assistant. Two participants gave lessons to the same gender golfers and the other two coaches taught to the opposite gender golfers; however, there were no big differences found between the two participant groups in coaching behaviors.
Another interesting finding is in relation to the instructing frequency and interval. Comparing the post instruction of the four coaches, it was easy to find the difference between coach D and the other coaches. The frequency of post instruction of coach D was higher than the other coaches; however, the other coaches' interval was two times longer than coach D. Actually, Coach D spent only 7 seconds per post instruction. On the other hand, the other three coaches spent 24 seconds per post instruction. This discrepancy suggests that the post instruction of coach D was not as in-depth in terms of explanation, both technical and practical, when compared to the other three coaches. This might also reflect the difference between experienced and inexperienced coaches (Cushin & Jones, 2001). Actually, Coach A, Coach B, and Coach C have more experience in coaching golf than coach D. In fact, two of these coaches teach golf at a community college and the other coach was nominated as a top-10 coach in Palm Springs area by Golf Magazine (2005, February), but coach D is an average golf coach.

Despite the small number of participants and limited observation sessions, this study provides useful information about coaching behaviors in golf. However, more
wide-ranging studies are necessary to explain and expound the complicated patterns and methods of golf instructors' coaching behaviors.
APPENDIX A

LETTER OF APPROVAL FROM INSTITUTIONAL REVIEW BOARD
March 21, 2008

Mr. Jongwon Paik  
c/o: Prof. Hosung So  
Department of Kinesiology  
California State University  
5500 University Parkway  
San Bernardino, California 92407

Dear Mr. Paik:

Your application to use human subjects, titled, "Analysis of Coaching Behaviors of Golf Instructors Using a Systematic Approach" has been reviewed and approved by the Institutional Review Board (IRB). Your informed consent document is attached. This consent document has been stamped and signed by the IRB chairperson. All subsequent copies used must be this officially approved version. A change in your informed consent (no matter how minor the change) requires resubmission of your protocol as amended.

Your responsibilities as the researcher/investigator reporting to the IRB Committee include the following requirements: You are required to notify the IRB of the following: 1) submit a protocol change form if any substantive changes (no matter how minor) are made in your research prospectus/protocol, 2) if any unanticipated/adverse events are experienced by subjects during your research, and 3) when your project has ended by emailing the IRB Coordinator. Please note that the protocol change form and renewal form are located on the IRB website under the forms menu.

Your project is approved for one year from the letter approval date listed above. If your project lasts longer than one year, the investigator/researcher is required to notify the IRB by email or correspondence of Notice of Project Ending or submit a Request for Renewal at the end of your approval end date. Failure to notify the IRB of the above may result in disciplinary action. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, IRB Coordinator. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely,

Sharon Ward, Ph.D., Chair  
Institutional Review Board

SW/ing

c: Prof. Hosung So, Department of Kinesiology
APPENDIX B

INFORMED CONSENT OF APPROVAL FROM

INSTITUTIONAL REVIEW BOARD
I am a graduate student of California State University, San Bernardino majoring in kinesiology and I am in the process of completing my master’s thesis under the supervision of Dr. Hosung So. This study has been approved by the Institutional Review Board of California State University, San Bernardino.

As a golf player, fan, and advocate, I have been captured by the methods of top-level instructors, such as yourself. For this reason, I am asking a few selected instructors from the Palm Springs area for their support in my study. The primary purpose of the research is to analyze and examine the characteristics of top-level golf instructions. Data will be collected, with your consent, via videotaped session of the instructors’ lesson to find the distinctive coaching styles and methods used by top-level golf instructors. The aim is to capture about 90 minutes of recorded data in order to have enough data to complete a thorough and fair analysis. All of your responses will be held in the strictest confidence by the researchers. Your name will not be reported with your response. You may receive the results of this study upon completion on July 2008 by mail. You are free not to withdraw at any time during this study.

If you have any questions or concerns about this study, please feel free to contact Dr. Hosung So at 909-537-7234. I believe your help will provide important information, incitement, and direction as I complete a detailed descriptive analysis of coaching behaviors in golf. Furthermore, the results will facilitate advancement with coaching techniques for golf. Thank you for your help and cooperation.

By placing a check mark in the box below, I acknowledge that I have been informed of, and that I understand, the nature and purpose of this study, and I freely consent to participating. I also acknowledge that I am at least 18 years old.

Printed Name and Signature __________________________ Date ________________

Signature of Investigator __________________________ Date ________________
As part of this research project, we will be making a photograph/videotape/audiotape recording of you during your participation in the experiment. Please indicate what uses of this photograph / videotape / audiotape you are willing to consent to by initialing below. You are free to initial any number of spaces from zero to all of the spaces, and your response will in no way affect your credit for participating. We will only use the photograph/videotape/audiotape in ways that you agree to. In any use of this photograph/videotape/audiotape, your name would not be identified. If you do not initial any of the spaces below, the photograph/videotape/audiotape will be destroyed.

**Please indicate the type of informed consent**
- [ ] Photograph
- [x] Videotape
- [ ] Audiotape

- The photograph/videotape/audiotape can be studied by the research team for use in the research project.
  
  Please initial: ____

- The photograph/videotape/audiotape can be shown/played to subjects in other experiments.
  
  Please initial: ____

- The photograph/videotape/audiotape can be used for scientific publications.
  
  Please initial: ____

- The photograph/videotape/audiotape can be shown/played at meetings of scientists.
  
  Please initial: ____

I have read the above description and give my consent for the use of the photograph / videotape / audiotape as indicated above.

The extra copy of this consent form is for your records.

SIGNATURE ___________________________ DATE ___________________
Questionnaire

1. Gender (mark one): Female_____ Male_____ 

2. Age (DOB): _____

3. How long have you coached golf? ________

4. How do you like your career? (Circle on the number) (Unsatisfied) 1 2 3 4 5 (Satisfied)

5. What kind of certificate do you have? 
   PGA Class A _____ USGTF _____
   I do not have any certificate. _____
   Others ___________________________

6. What school did you graduate? And what was your major? 
   _____ High school Diploma _____ College associate degree
   _____ University Degree _____ Master’s Degree
   _____ Doctor’s Degree
   I majored in _________________________.

-The end-
REFERENCES


