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THE EFFECT OF SELF-ASSESSMENT ON THE

BEHAVIORS OF A COLLEGIATE

SWIM COACH

A Thesis Presented to the Faculty of the

Graduate Program in Exercise

and Sport Sciences at

Ithaca College

In Partial Fulfillment of the

Requirements for the Degree of

Master of Science

by

Michelle E. Moosbrugger

September 2002

Ithaca College
Graduate Program in Exercise and Sport Sciences
Ithaca, NY

CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

This is to certify that the Master of Science Thesis of

Michelle E. Moosbrugger

submitted in partial fulfillment of the requirements
for the degree of Master of Science in Exercise and
Sport Sciences at Ithaca College has been approved.

Thesis Advisor:

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Dean of Graduate Studies:

Date: ___*August 13, 2002*___

ABSTRACT

This study examined the effects of a self-assessment program on the coaching behaviors of a collegiate swim coach. The subjects were one female collegiate swim coach and 30 female collegiate swimmers. The study consisted of three phases, which each contained five videotaped practices. The Self-Assessment Feedback Instrument (SAFI) was used to record the coach's behaviors throughout all videotaped practices. The Athletes' Perceptions Questionnaire (APQ) was administered after the first and third phases to measure the athletes' perceptions of the coach's behaviors. Following Phase I, the coach completed a self-assessment program, which involved setting behavioral goals based on the Phase I SAFI data and creating achievement strategies to reach her goals. Analysis of the SAFI data revealed that changes in behavior had occurred from Phase I to Phase III. The coach was able to improve all targeted behaviors. The coach dramatically increased the use of athletes' names, praise/reinstruct, questioning, instruction during performance, and the hustle behavior, in terms of rate per minute (RPM). The coach also decreased the use of extended information as desired. Examination of the APQ data indicated that, overall, the athletes perceived a change and improvement in the coach's

behaviors. The results of this study provided support to the use of a self-assessment program for coaches.

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1. Dr. Victor H. Mancini, my thesis advisor, for his guidance and expertise, but most of all for the inspiration to investigate the topic of coaching behaviors.

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3. Paula Miller, my mentor, for modeling an extraordinary coaching style, and for encouraging me to improve my own coaching abilities.

4. The swimmers, whose cooperation and trust made this study feasible, and from whom I learned more than I ever thought possible.

DEDICATION

This thesis is dedicated to my parents, Fred and Lisa, and my brother, Adam. Through their encouragement, support, and love, I have gained the confidence I need to succeed.

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CHAPTER 1

Introduction

In today's society, success is necessary for coaches to retain their job; thus, coaches have searched for methods to improve their performance and win-loss record. Coaching behavior is a controllable aspect of coaches' performance. Self-assessment of coaching behavior enables coaches to describe and analyze their interactions with athletes, in addition to allowing them to improve behaviors, increase their effectiveness, and ultimately enhance their ability to succeed as a coach (DeMarco, 1998; DeMarco, Mancini, Wuest, & Schneider, 1999; Tsangaridou & O'Sullivan, 1994).

Two means of assessing coaching behavior are athlete assessment of the coach and self-assessment. Athletes can provide a meaningful and accurate assessment of a coach's behaviors. Kenow and Williams (1992) found that athletes are better able to identify a coach's behavior than the coach him/herself. Laughlin and Laughlin (1994) recommended that coaches encourage athletes to evaluate the coaches' behaviors throughout a season. Then, if they choose, the coaches could modify their behaviors based on the athletes' responses.

Self-assessment by coaches results in an increase in awareness of behavior, which is the first step to changing behaviors (Cusimano, 1987). Coaches can assess their

behaviors by watching videotapes of their practices and games. While reviewing the videotapes, they can analyze their behaviors and identify specific behaviors to change. Then, coaches may set goals to change the specific behaviors and identify strategies to achieve their goals (More & Franks, 1996).

The Self-Assessment Feedback Instrument (SAFI) was created as a method of self-assessment for physical educators and coaches, enabling them to reflect upon their behaviors during lessons and practices (Mancini & Wuest, 1989). The SAFI categorizes specific behaviors exhibited by teachers and coaches. The categories include praise, praise-reinstruct, questions, instruction during performance, directions, criticism, constructive criticism, and criticism-reinstruct. Researchers (Allen & Howe, 1998; Avery, 1978; Black & Weiss, 1992; Bloom, Crumpton, & Anderson, 1999; DeMarco, 1998; DeMarco et al., 1999; Kenow & Williams, 1992) have found that some of these behaviors are advantageous to coaching effectiveness, while other behaviors detract from effective coaching.

Researchers have studied effective teachers and coaches in order to identify the behaviors that contribute to their effectiveness. Black and Weiss (1992) found that coaches' praise helps athletes to perceive success and to increase effort utilized in activities. Allen and Howe (1998)

reported that athletes who receive more praise, information, and encouragement are more satisfied with the coach and team than those who receive less of the coach's feedback. DeMarco (1998) discovered that expert teachers frequently provide feedback, questioning, and praise. Other researchers (Allen & Howe, 1998; Black & Weiss, 1992; Vealey, Armstrong, Comar, & Greenleaf, 1998) found that criticism of athletes results in a decreased perception of competence.

Some researchers have studied the effectiveness of self-assessment in improving the use of effective coaching and teaching behaviors. Cusimano (1987) found that with practice, self-assessment, and goal setting, teachers were able to improve upon the use of specific feedback. The use of self-assessment and goal setting to modify behavior was supported by More and Franks (1996), who examined the process of self-assessment among coaches. DeMarco et al. (1999) found that the use of the SAFI produced an increase in coaches' quantity and improved the quality of feedback.

Coaches could combine the use of athlete assessment with self-assessment using the SAFI to more thoroughly evaluate their own coaching behaviors. There is plentiful research concerning the use of the SAFI that indicates the SAFI is effective in changing the targeted coaching behaviors. However, research combining the use of athlete assessment and with self-assessment is limited. Furthermore,

no research has been conducted on a female collegiate swim coach and her athletes.

Statement of the Problem

The purpose of this study was to examine the effects of self-assessment and goal setting on the coaching behaviors of a collegiate swim coach during a single season. The impact of the self-assessment and goal setting program on the athletes was also inspected using the Athletes' Perceptions Questionnaire (APQ). The coach was videotaped in 15 practices, which were coded with the SAFI. The coach targeted areas of behavior in need of improvement, set specific goals, and monitored improvement towards the goals. Coaches may be able to use the results of this study to implement their own goal-setting program, target behaviors to improve upon, and better their treatment of athletes.

Research Questions

1. Do self-assessment and goal setting aid a coach in implementing desired coaching behaviors?
2. Can athletes identify a change in actual coaching behaviors?

Hypothesis

The behavior of a collegiate swim coach will not differ significantly before and after completing a self-assessment program.

Assumptions

This investigation was based on the following assumptions:

1. The coding of 15 practices in one collegiate swim season using the SAFI will yield valid data on the behavior of the coach.

2. The use of a questionnaire will elicit valid responses from swimmers concerning the coach's behavior.

Definition of Terms

The following terms were operationally defined for the purpose of the study.

1. Systematic observation is the observing and recording of interactions that occur between a teacher and student or a coach and athlete (van der Mars, 1989).

2. The Self-Assessment Feedback Instrument (SAFI) is a systematic observation technique created to describe the frequency and type of feedback given by teacher or coach in a simple manner (Mancini & Wuest, 1989).

3. Coaching behaviors are actions exhibited by a coach in giving feedback to athletes, including praising, criticizing, and informing (Mancini & Wuest, 1989).

4. Expert coaches are those who combine "high levels of teaching skill... with high levels of subject matter competence" (Siedentop & Eldar, 1989, p. 257).

5. <u>Significance</u> is defined as a difference of 5% or greater between the compared values.

Delimitations

The following were delimitations of the study:

1. The subject was a female swim coach at the NCAA Division III level.

2. The SAFI was the only systematic observation instrument utilized to describe the coach's behavior.

3. The APQ was created by the researcher, completed by athletes only twice during the study, and served as the only measure of athletes' perceptions of coaching behavior.

3. The coach was videotaped a total of 15 practices throughout the course of one intercollegiate swim season.

4. Only 30 swimmers, attending the same NCAA Division III college, were used in the study.

Limitations

The following were limitations of the study:

1. The findings concerned with the behavior of a collegiate swim coach may be valid for comparison only when the SAFI is used.

2. The findings of the study may only be valid for Division III female swim coaches in central New York.

3. The findings concerned with female collegiate swimmers' perceptions of their coach may only be valid for comparison when the APQ is used.

CHAPTER 2

Review of Related Literature

This study compared the behavior of a collegiate swim

coach before, during, and after the coach employed a self-

assessment goal setting program. This chapter contains a

review of literature related to research on this topic. The

chapter includes information on: (a) interaction analysis of

teachers and coaches, (b) coaching behaviors, (c) self-

assessment and reflection in teachers and coaches, (d) use

of the SAFI to facilitate change in coaching behavior, (e)

athlete assessment of coaches, and (f) summary.

Interaction Analysis of Teachers and Coaches

For the past 30 years, researchers have studied and

created a variety of methods to observe physical education

classes and athletic practices. One resulting method, termed

interaction analysis, identifies and quantifies a teacher's

or coach's communication with students and athletes. Many

interaction analysis instruments were developed in an

attempt to better understand teachers' behaviors.

Flanders' Interaction Analysis System (FIAS) became the

foundation of many other systems (Darst, Zakrajsek, &

Mancini, 1989). Flanders developed this system to

objectively observe, record, and analyze teacher and student

verbal behavior.

To adapt FIAS to the physical education setting, Cheffers developed Cheffers' Adaptation of Flanders' Interaction Analysis System (CAFIAS) (Cheffers & Mancini, 1989). With this system, an observer may categorize both verbal and non-verbal behavior. Cheffers also differentiates between different teaching agents, such as students or the environment. An additional modification found in CAFIAS is that there are six categories for student behavior, expanding the two categories found in FIAS.

The Self-Assessment Feedback Instrument (SAFI) was developed as a modification to CAFIAS (Mancini & Wuest, 1989). With this system, teachers and coaches may describe and quantify the method in which they give feedback. The SAFI is considered a simple, easy to learn systematic observation technique, as there are only 11 behavior categories, compared to 18 in CAFIAS. A teacher or coach watches a video of the lesson or practice, and uses the SAFI to code the behaviors or behavior patterns exhibited, such as praise or constructive criticism. The information from the SAFI is summarized by behavior category. The teacher or coach can identify which behaviors are used most or least often. By watching the video and focusing on the behaviors, the teacher or coach becomes more aware of his/her interactions with the students or athletes, and may set goals for improvement.

The use of systematic observation techniques provides teachers and coaches with information concerning their treatment of students or athletes in the classroom or on the athletic field. The knowledge gained through the use of these techniques may help teachers and coaches become more aware of their behaviors, and improve their behavior patterns.

Coaching Behaviors

Coaches exhibit many behaviors, which can affect athletes in various ways (Allen & Howe, 1998; Avery, 1978; Black & Weiss, 1992; Bloom et al., 1999; DeMarco et al., 2002; Kenow & Williams, 1992). Some of the responses from athletes are desired, while others are not. Coaches may wish to increase behaviors which elicit positive responses from their athletes.

Coaches who exhibit negative behaviors towards athletes, such as criticism, often elicit undesirable responses in athletes (Allen & Howe, 1998; Black & Weiss, 1992; Vealey et al., 1998). Black and Weiss (1992) found that athletes who received criticism from coaches perceived themselves as less competent in physical activities than their peers who received encouragement. Females, in particular, are sensitive towards negative coach behavior. Allen and Howe (1998) found that female field hockey players evaluate their abilities based on feedback from the coach.

These females perceived corrective feedback from the coach as an indication of failure. Vealey et al. (1998) found that female college athletes who perceive coaches to frequently use criticism or verbal punishment often have a negative self-concept.

Researchers found that physical educators and coaches who interact more positively with athletes are more effective (Avery, 1978; Bloom et al., 1999; DeMarco, 1998; Vealey et al., 1998). DeMarco (1998) studied teachers who had received the Physical Education Teacher of the Year Award from AAHPERD. Within this study, DeMarco found that these expert teachers gave frequent praise, more than one time per minute during a lesson. Avery (1978) compared effective and ineffective coaches. The designation of the coaches as effective or ineffective was determined through the use of the Coaches Performance Criteria Questionnaire. Effective coaches were found to use more verbal and non-verbal praise and more enthusiasm during practice.

Bloom et al. (1999) reported that an expert basketball coach usually exhibited positive interactions with athletes. The researchers found that this coach praised and encouraged the athletes 13.6% of the time, while criticizing (1.6%) and punishing (.6%) the athletes much less frequently. Vealey et al. (1998) found that frequent praise from coaches is related to athletes' sense of accomplishment.

In addition to praise and criticism, other coaching behaviors also alter athletes' perceptions of themselves, their sport, and their coaches. Kenow and Williams (1992) found that athletes depend on all types of coach feedback to build confidence. Allen and Howe (1998) reported that athletes who received frequent positive interactions from the coach, such as praise and information, had more satisfaction with the coach and team than athletes who received infrequent positive interactions.

Other types of teaching and coaching behavior include questioning and instructing after praising or criticizing students. DeMarco et al. (1999) found that expert physical educators often question students. The teachers in this study asked an average of 2.06 questions per minute. DeMarco et al. (1999) stated that teachers and coaches "frequently (provide) both praise and constructive criticism without providing follow-up instruction to explain... For all intents and purposes (the praise and criticism) was rendered ineffectual" (p. 15). McCullick, Schempp, and Schuknect (2000) reported that expert instructors provide immediate corrective feedback regarding students' behavior, rather than simply praising or criticizing. Manross and Templeton (1997) reported that expert teachers offer a variety of feedback following students' behaviors, instead of repeating a single phrase, such as "good job!" for all situations.

Praise, feedback, information, and questioning are behaviors that effective physical educators and coaches exhibit when interacting with students and athletes. Teachers and coaches who give praise and criticism in all situations without providing further information are considered ineffective in aiding their students and athletes in improving their performance.

Self-Assessment and Reflection in Teachers and Coaches

Reflectivity is a desirable characteristic in physical education teachers and coaches (Tsangaridou & O'Sullivan, 1994). The use of reflection and self-assessment assists teachers and coaches in improving their behaviors and interactions with students and athletes.

Researchers who have studied expert teachers and coaches have cited the use of reflection and self-assessment as necessary to achieve mastery in the field. DeMarco (1998) found that four expert physical educators shared the common trait of reflectivity. These teachers were "highly reflective and self-analytical individuals who often... evaluated their teaching" (p. 163). The teachers in this study also "possessed a high degree of 'with-it-ness,'" or awareness, which was key to understanding and evaluating their own behaviors (p. 162). McCullick et al. (2000) studied expert golf instructors, and reported that experts separated themselves from other teachers in part with their

desire to reflect upon, refine, and improve their teaching. Tsangaridou and O'Sullivan (1994) found that expert teachers and coaches also exhibit more developed decision-making skills, caused by reflection on previous lessons and practices.

Reflection and self-assessment are a "means of professional growth and development" (Tsangaridou & O'Sullivan, 1994, p. 22). Teachers and coaches should use a form of self-assessment to increase their knowledge of their behaviors and improve their methods.

Many teachers and coaches are unaware of the behaviors they exhibit with students and athletes (Kenow & Williams, 1992). One method researchers found to increase awareness of behavior is video analysis (Cusimano, 1987; Tsangaridou & O'Sullivan, 1994). Teachers and coaches can view videotapes of their lessons or practices, and "describe, analyze, and criticize different aspects of their own teaching" and coaching (Tsangaridou & O'Sullivan, 1994, p.17). Tsangaridou and O'Sullivan reported that the use of video analysis helped teachers and coaches become "more aware of what was happening... it forced them to scrutinize their teaching and rethink ways they could make changes" (p. 22). By completing video analysis, teachers and coaches are able to reflect upon and self-assess their behaviors.

After assessing their behaviors, teachers and coaches may set goals to modify behaviors (Cusimano, 1987; DeMarco, et al., 1999; More & Franks, 1996). By setting goals, teachers and coaches are "making a decision to change one's future actions" (Cusimano, 1987). Goals should be set to determine target values for specific behaviors (More & Franks, 1996). Strategies then need to be developed to change behaviors (DeMarco et al., 1999). Then, coaches and teachers will need time to practice the modified behaviors, while assessing the changes with additional video analysis (Cusimano, 1987). This method of analysis, self-assessment, and goal setting has been found to elicit changes in teaching and coaching behaviors (Cusimano, 1987; DeMarco et al., 1999; More & Franks, 1996). Awareness of behavior increased, and improvements in targeted behaviors were made.

Use of the SAFI to Facilitate Change in Coaching Behavior

Researchers have studied the use of the SAFI as a means to facilitate appropriate changes in coaching behavior. Coaches have utilized a self-assessment process to evaluate their current coaching behavior, target areas in need of improvement, develop strategies to achieve change, and analyze the process to determine whether change has occurred (Buchanan, 1993; Cifone, 1992; DeMarco, 1992; DeMarco et al., 1999; Gula, 1989; Pallozzi, 1993).

Researchers have developed a three-phase procedure for coaches to employ (DeMarco et al., 1999). The first phase consists of collecting baseline data on the coach's behavior by videotaping practices and using the SAFI. Then, the coach analyzes the data to determine the behaviors in need of improvement or change. The coach then establishes goals and achievement strategies to accomplish the proposed changes. Phase II includes the execution of the achievement strategies during practices. During this phase, the coach monitors progress towards the goals using the SAFI and compares the SAFI data to goals for each targeted SAFI category. In Phase III, final data are collected by using the SAFI on videotaped practices. Then, the coach may compare data from Phase I with that of Phase III to determine whether goals were achieved and changes in behavior were made.

In 1989, Gula investigated the use of self-assessment on his own behavior as a soccer coach. Gula structured the study with the above-mentioned three-phase procedure, using the SAFI and the Group Time Management Instrument (GTMI). After the collection of baseline data using the SAFI and the GTMI on videotapes of five practices, Gula identified goals of increasing instruction during performance, increasing the use of the hustle behavior, using players' first names more often, and decreasing the amount of management time during

practice. After monitoring progress towards goals in Phase II, the researcher compared Phase III SAFI and GTMI data from five practices to data from Phase I to determine whether goals were achieved. The coach's use of instruction during performance increased 0.5 to 1.2 rate per minute (RPM) from Phase I to Phase III. The hustle behavior was used more often, increasing from 0.2 to 0.7 RPM. The coach used players' names more often, as this behavior increased from 1.0 to 2.1 RPM. With the use of the GTMI, the researcher was able to decrease management time from 17.8% to 6.0% of practice time. The researcher concluded that the coach met all goals, and became a more effective coach by incorporating desired behaviors and improving management techniques. The coach attributed the improvements to the use of videotaping and self-assessment using the SAFI and the GTMI.

DeMarco (1992) also utilized the three-phase procedure to determine the effectiveness of self-assessment on the coaching behaviors of a collegiate baseball coach. In addition to analyzing videotaped practices with the SAFI, the researcher used the Coach's Performance Questionnaire (CPQ) and notes from the coach's journal to describe the coach's behaviors. The CPQ assessed the coach's and players' perceptions of the coach's behaviors during practice. The CPQ was administered before Phase I and after Phase III. The

CPQ data indicated that the coach became more aware of his behaviors following the self-assessment program. The coach's behavioral goals were to increase indirect coaching methods and decrease directions and information giving. In comparing the SAFI data from Phase I to that of Phase III, the researcher determined that the coach was able to increase indirect coaching behaviors of instruction during performance, praise/reinstruct, constructive criticism/ reinstruct, and questioning. The coach's use of excessive directions and information decreased. DeMarco (1992) concluded that self-assessment is a valuable tool to improve self-awareness and promote change in desired coaching behaviors.

Gordon (1992) also studied the use of self-assessment as a means to change a coach's behavior. A three-phase procedure and the SAFI were utilized to measure change in a basketball coach's behavior. The coach was able to increase the desired behaviors of questioning, praise/reinstruct, criticism/reinstruct, hustle, and the use of players' names. Gordon concluded that self-assessment is an appropriate means to aid a coach in changing his behaviors and becoming more effective.

Cifone (1992) utilized videotaping and the SAFI to determine the effect of systematic supervisory feedback (SSF) on the behavior of a collegiate lacrosse coach.

Differing slightly from the three-phase procedure, Cifone added a fourth phase to the process to compare the coach's behavior during games to the behavior during Phase III practices. The coach examined the SAFI baseline data from Phase I, and desired to increase behaviors of instruction during performance, questioning, praise/reinstruct, and constructive criticism/reinstruct. Following six practices during Phase II to monitor progress towards the behavior goals, and three Phase III practices to collect post-treatment data, the researcher compared the data from Phase I and Phase III. The coach's use of instruction during performance increased from 1.7 to 2.1 RPM. The use of questions in practice increased from 0.1 to 0.2 RPM. The praise/reinstruct behavior was used 0.5 RPM in Phase I and 0.8 RPM in Phase III. The coach used more constructive criticism/reinstruct, as this behavior increased from 0.1 to 0.3 RPM. In examining results from Phase IV, the researcher noted that the coach used more hustle behavior, praise, and instruction during performance in games than in practice. The researcher concluded that the use of the SAFI and SSF aids a coach in targeting and changing desired behaviors.

Buchanan (1993) used the SAFI and the three-phase procedure to determine whether self-assessment was effective in improving the coaching behaviors of a high school baseball coach. After collecting baseline SAFI, the coach

selected goals of increasing the behaviors of praise/ reinstruct, instruction during performance, using players' first names, constructive criticism/reinstruct, and hustle. The coach also desired to decrease the amount of extended information used. Following the five practices in each of Phase II and III, the SAFI data from Phase I and III were compared. The data indicated increases in the behaviors of praise/reinstruct (0.1 RPM to 1.9 RPM), instruction during performance (0.4 to 2.9 RPM), use of players' first names (0.6 to 3.0 RPM), constructive criticism/reinstruct (0.1 to 0.9 RPM), and hustle (0.1 to 2.1 RPM). A decrease in the coach's use of extended information was also noted (1.6 to 0.3 RPM). Buchanan concluded that since all goals were met, self-assessment is an effective method to aid a coach in changing desired behaviors.

Pallozzi (1993) utilized the SAFI and the CPQ with a three-phase procedure to investigate the use of self-assessment as a method to change the behavior of a softball coach. The CPQ was administered to the coach and players immediately after Phases I and III. The coach also completed the CPQ before and after each practice of Phase II. After collecting baseline SAFI data in Phase I, the coach identified a desire to increase the behaviors of praise/reinstruct, questioning, instruction during performance, and constructive criticism/reinstruct and to

decrease the behaviors of criticism and extended information. The researcher determined that the CPQ data indicated that the coach became more aware of her behaviors. The coach was able to meet most of her goals, as praise/reinstruct increased from 0.6 to 1.6 RPM, instruction during performance increased from 1.5 to 2.8 RPM, constructive criticism/reinstruct increased from 0.2 to 0.3 RPM, criticism decreased from 0.6 to 0.0 RPM, and extended information decreased from 1.2 to 1.1 RPM. The coach did not meet her goal to increase questioning, as this behavior decreased from 0.3 to 0.2 RPM. The researcher concluded that self-assessment is effective in aiding a coach to describe, analyze, and improve targeted behavior.

Researchers studying coaches using the SAFI have found that the use of self-assessment results in changes in actual coaching behavior. Further, the changes achieved helped coaches become more effective, as indicated by the coaches' desired and targeted behaviors.

<div align="center">Athlete Assessment of Coaches</div>

Many coaches who wish to obtain further assessment of their effectiveness as a coach may turn to their athletes for feedback. The athletes provide a different perspective on the behavior patterns of a coach (Kenow & Williams, 1992; Laughlin & Laughlin, 1994).

Coaches have little awareness of their behaviors with athletes (Kenow & Williams, 1992). Athletes are better able to perceive actual coaching behavior. During a practice, athletes perceive a coach's behavior based on experience and values. After practice, the athletes recall the behavior, and "have an evaluative reaction to the coach's behavior" (p. 346). Coaches can take advantage of this reaction and discover the athletes' evaluation of their behavior by administering questionnaires for the athletes to complete. Coaches are unaware of their coaching behaviors, and Kenow and Williams (1992) found that "athletes' ratings of perceived coaching behaviors correlated much more highly with observed coaching behaviors" than the coaches' own perceptions (p. 349).

Salminen and Liukkonen (1996) also found that coaches and athletes perceived coaching behavior differently. Athletes' agreement with their coaches' perceptions of behavior seemed to depend on the type of sport and gender of their coach. Individual sport athletes and those with female coaches tend to agree more closely with the coaches' perceptions of coaching behaviors than do team sport athletes and those with male coaches. Despite differences in gender and sport type, Salminen and Liukkonen concluded "the coach who considers the opinions and feelings of athletes seems to have the best relationships with athletes" (p. 65).

Other researchers recommend using athletes to provide a coach with feedback. Laughlin and Laughlin (1994) studied physical educators and their students. The students in the study preferred certain types of leadership from teachers, based on their own perceptions of leadership. The researchers concluded that teachers should "weave student assessment of teacher effectiveness into the teaching process" (p. 399). Since teaching athletes is an essential component of coaching, the researchers stated, "most of the research on the effectiveness of different methodologies has been done on teachers, (so)... coaches should be studied more often in future research" (p. 404). The researchers suggested that coaches "attempt to determine the perceptions and preferences of... athletes before, during, and after a... season, and modify their methodology based on these determinations" (p. 405).

Summary

In the last 30 years, researchers in the fields of physical education and coaching have studied behavior interaction patterns between teachers and students, as well as coaches and athletes. Researchers created systematic observation techniques to objectively describe these interactions.

Three systematic observation techniques are often used in physical education and athletic settings. FIAS, developed

by Flanders, is used to measure verbal behavior interactions (Darst et al., 1989). Cheffers modified FIAS to code verbal and non-verbal behavior (Cheffers & Mancini, 1989). The SAFI was created to simplify CAFIAS (Mancini & Wuest, 1989). The SAFI is most useful in obtaining objective information about teachers' and coaches' feedback. The SAFI can be utilized as a technique for teachers and coaches to reflect upon their behaviors.

Reflection is a common characteristic of expert physical educators and coaches (DeMarco, 1998; Tsangaridou & O'Sullivan, 1994). Researchers suggest that all coaches should participate in reflection with some form of assessment (DeMarco, 1998; Laughlin & Laughlin, 1994; Tsangaridou & O'Sullivan, 1994). Two forms of assessment studied by researchers are self-assessment and athlete assessment of coach. The use of analysis, self-assessment, and goal setting results in increased awareness of coaching behaviors and the possibility of modification of behaviors (Cusimano, 1987; DeMarco et al., 1999; More & Franks, 1996; Tsangaridou & O'Sullivan, 1994). Athlete assessment of coaches is useful to provide an accurate portrait of coach behavior (Kenow & Williams, 1992). Both forms of assessment are helpful to a coach in deciding which behaviors need to be changed, and then modifying the behaviors.

Researchers have studied coaching behaviors to examine the effectiveness of certain behaviors (Allen & Howe, 1998; Avery, 1978; Black & Weiss, 1992; Bloom et al., 1999; DeMarco, 1998; DeMarco et al., 1999; and Kenow & Williams, 1992). The researchers have found that positive interactions with athletes results in higher perceived competence, positive attitude, enjoyment, and confidence. Negative interactions, such as coach criticism lead to less perceived competence and perceived failure. In examining research on effective teaching and coaching, teachers and coaches are able to determine which behaviors they would desire to use with students and athletes.

Systematic observation techniques, such as the SAFI, are available to all teachers and coaches. These systems may be used, along with athlete assessment of coaches, to provide the coach with an accurate evaluation of actual coaching behaviors. Gula (1989), DeMarco (1992), Cifone (1992), Gordon (1992), Buchanan (1993), and Pallozzi (1993) investigated the use of a three-phase procedure using the SAFI to determine the effectiveness of self-assessment in changing coaches' behavior. The researchers determined that the use of the SAFI results in a beneficial change in coaching behaviors. However, researchers have not conducted a study on the use of the SAFI program in the sport of swimming.

CHAPTER 3

Methods and Procedures

This chapter contains information concerning the
selection of subjects, the testing instruments, procedure,
method of data collection, coder reliability, scoring of
data, and treatment of data.

Selection of Subjects

The subjects for this study were one female collegiate
swim coach and 30 female collegiate swimmers from a Division
III institution in central New York. Each subject was
required to complete an informed consent form (Appendix A).

Testing Instruments

The testing instrument used to measure the coaching
behavior of the swim coach was the Self-Assessment Feedback
Instrument (SAFI) (Mancini & Wuest, 1989) (Appendix B). The
system provides a method to code, describe, and analyze the
interactions between coach and athletes. The coding
procedures maintain that every time the coach provides
feedback to athletes, during or after performance, the
behavior is coded.

The testing instrument used to examine the athletes'
perceptions of the coach's behavior was the Athletes'
Perceptions Questionnaire (APQ) (Appendix C). The APQ was
created by the researcher, based on the categories of coach
behavior found in the SAFI. Opportunities were also provided

for the athletes to respond in an open-ended fashion to the
coach's behavior.

Procedures

The coach of a collegiate swim team was videotaped for
15 practices during the 2000-2001 season. The practices were
split into three phases, with five videotaped practices in
each phase. During the first phase, the coach was
videotaped, and a reliable coder used the SAFI to collect
data. The athletes completed the APQ during this phase.

During the second phase, the coach set goals based on
the SAFI data from Phase I. The coach formulated achievement
strategies for the goals. The practices were videotaped, and
the coach used the SAFI with the guidance of a reliable
coder to monitor her progress towards the goals.

During the final phase, the coach was videotaped and
the reliable coder used the SAFI to determine the final
data. Following the final videotaped practice, the athletes
again completed the APQ.

Method of Data Collection

Data were collected during 15 videotaped practices
throughout the 2000-2001 season. Practices were 2 hours in
length.

Questionnaires were administered to the athletes twice
during the season, each time prior to the day's practice
session. The researcher gave instructions as to how to

complete the APQ and left the room. The athletes completed the APQ within 15 minutes. A team captain then collected the questionnaires in an envelope. The envelope was sealed and returned to the researcher.

Coder Reliability

To establish coder reliability for this investigation, two randomly selected practices were coded at two different times by Dr. Victor H. Mancini, an expert in the coding of the SAFI. A Spearman rank-order correlation was used to compare the top 10 cells for each coded practice. In order to establish reliability for the APQ, the athletes' responses were examined on two separate occasions.

Scoring of Data

Data collected from the coding of the SAFI were calculated to find sums, percentages, and rates per minute for the 12 categories of the system. To calculate the rate per minute of all feedback and instruction, the number of total behaviors the coach exhibited within a phase was divided by the total number of minutes of practice in the phase. Responses given by the athletes on the APQ were examined for comments related directly to categories of the SAFI.

Treatment of Data

Differences in coaching behavior before and after the self-assessment process were determined by descriptive

statistics. The percentages for each of the SAFI categories were visually compared. The APQ responses from Phase I and Phase III were visually examined to determine whether the athletes' perceptions support or dispute the SAFI data.

CHAPTER 4

Analysis of Data

This chapter contains the results found when examining

the coaching behaviors of a collegiate swim coach before,

during, and after completing a self-assessment program. The

chapter includes the following sections: (a) reliability,

(b) analysis of coach behavior before self-assessment, (c)

analysis of coach's goals and achievement strategies, (d)

analysis of effectiveness of self-assessment, (e)

examination of athletes' perceptions of effectiveness of

self-assessment, and (f) summary.

Reliability

To establish coder reliability, two randomly selected

practices were coded at two separate times by Dr. Victor H.

Mancini, an expert in the coding of the SAFI. A Spearman

rank-order correlation was used to compare the top 10 cells

for each coded practice. The mean correlation found was .98,

which verifies that the coder was reliable. In terms of

reliability for the APQ data, athletes' statements were

examined on two separate occasions. Several athletes

expressed common views concerning the coach's behaviors

while responding to the APQ. Because the similarities

between athletes statements were found during each of the

separate examinations, these athletes' responses were

considered reliable.

Analysis of Coach Behavior Before Self-Assessment

Phase I consisted of videotaping five practices and describing the coach's behavior in each practice with the SAFI. Table 1 illustrates the overall percentages and RPM for the coach's behavior during Phase I, as indicated by the SAFI data. The data indicated that the coach spent 29% of practice time giving extended information, which was more time than any other category. Other frequently used behaviors were instruction during performance (15%) and giving directions (13%). The coach rarely used the behaviors of criticism (1%), criticism followed by reinstruction (1%), constructive criticism (2%), and praise followed by reinstruction (4%). The coach also chose to examine the use of athletes' first names, which was measured only in RPM and not as a percentage, as names were used with various forms of feedback. The coach used names at a rate of .27 RPM.

Analysis of Coach's Goals and Achievement Strategies

Based on the SAFI data from Phase I, the coach targeted behaviors for change and improvement. For each targeted behavior, the coach identified an appropriate strategy to employ in order to achieve a change in behavior. During Phase II, the coach used the SAFI data from each practice to compare with goals for each behavior and determine whether progress had been made.

Table 1

Phase I Coach Behavior

Category	Total Behaviors	Percentage	RPM
Praise (2)	79	.07	.15
Praise/Reinstruct (2-5)	41	.04	.08
Acceptance (3)	97	.09	.18
Questions (4)	86	.08	.16
Instruction during			
Performance (8-5, 8/-5)	176	.15	.33
Gives Directions (6)	146	.13	.28
Hustle Behavior (6H)	55	.05	.11
Criticism (7)	7	.01	.01
Constructive Criticism (7-2)	17	.02	.03
Criticism/Reinstruct (7-5)	9	.01	.02
Constructive Criticism/			
Reinstruct (7-2-5)	60	.06	.11
Extended Information (5-5)	337	.29	.64
Use of Athletes' Names	145	--[a]	.27

Note. Total min = 530. Total behaviors = 1110.

[a]Names were not included in percentages because they are
used with various forms of feedback.

As overall goals, the coach desired to increase the behaviors of praise/reinstruct, questioning, instruction during performance, and hustle, while using athletes' names more frequently. The coach also targeted the goal of decreasing the amount of extended information given. Table 2 illustrates these goals, achievement strategies the coach implemented to strive for the goals, and whether the goals were met.

Analysis of Effectiveness of Self-Assessment

The SAFI data collected during the five practices of Phase III provided information to determine the effectiveness of the self-assessment program for this coach. By focusing on implementing achievement strategies in practices, the coach was able to change targeted behaviors and achieve all behavioral goals, as is indicated in the assessment of goals in Table 2. Table 3 lists the coach's percentages and RPM for behaviors displayed in Phase III.

These data indicated that the coach spent 22% of practice time giving instruction during performance, which was more time than any other category. This differs from Phase I, in which the coach spent the most time on the behavior category of giving extended information. In Phase III, the other categories the coach used primarily were praise/reinstruct (15%), extended information (12.4%), time information (11%),

Table 2

Goals, Achievement Strategies, and Assessment of Achievement

Goal	Achievement Strategy	Assessment
Use more Praise/ Reinstruct	Replace general praise with specific positive feedback. Tell athletes why a particular behavior was good.	Praise/ Reinstruct increased from 4% to 15% and .08 to .62 RPM.
Increase use of questioning.	Challenge athletes with teaching by inquiry. Ask what needs to be changed/improved.	Questioning increased from 8% to 9.4% and .16 to .40 RPM.
Increase use of instruction during performance.	Correct errors in technique and offer information as are performing.	Instruction during performance increased from 15% to 22%, and .33 to .92 RPM.
Increase use of hustle behavior.	Encourage athletes to improve their pace or effort.	Hustle behavior maintained at 5%, and increased from .11 to .21 RPM.
Decrease the use of extended information.	Offer concise pieces of information.	Extended information decreased from 29% to 11% and .64 to .52 RPM.
Increase the use of athletes' first names.	Always use an athlete's name preceding feedback or instruction.	Use of names increased from .27 to 1.13 RPM.

Table 3

Phase III Coach Behavior

Category	Total Behaviors	Percentage	RPM
Praise (2)	115	.06	.26
Praise/Reinstruct (2-5)	278	.15	.62
Acceptance (3)	191	.10	.42
Questions (4)	177	.09	.40
Instruction during			
Performance (8-5, 8/-5)	412	.22	.92
Gives Directions (6)	63	.03	.14
Hustle Behavior (6H)	94	.05	.21
Constructive Criticism/			
Reinstruct (7-2-5)	98	.05	.22
Extended Information (5-5)	233	.12	.52
Time Information (T-5)	201	.11	.45
Use of Athletes' Names	507	--[a]	1.13

Note. Total min = 450. Total behaviors = 1889. Criticism,
constructive criticism, and criticism/reinstruct were not
included. These behaviors were used less than 1% of the
time, which was determined to be insignificant.

[a]Names were not included in percentages because they are
used with various forms of feedback.

and acceptance (10.1%). The coach rarely used criticism (.01%), constructive criticism (.07%), and criticism/reinstruct (.02%).

Table 4 is a comparison of the behaviors exhibited in Phase I and Phase III in terms of percentages and RPM. To determine the effectiveness of the self-assessment program, a comparison of Phase I and Phase III total behaviors, percentages, and RPM is necessary. In terms of RPM of total behaviors, the coach substantially increased her use of feedback and instruction from 2.09 RPM in Phase I to 4.20 RPM in Phase III.

In examining specific behaviors, the percentage of some behaviors exhibited by the coach increased from Phase I to Phase III, while other behaviors decreased, and the use of the hustle behavior remained constant at 5%. The coach increased the proportion of time used on praise/reinstruct, acceptance, questioning, and instruction during performance. From Phase I to Phase III, the coach decreased the proportion of practice time spent on praise, directions, criticism, constructive criticism, criticism/reinstruct, constructive criticism/reinstruct, and extended information. Only the percentage of praise/reinstruct, instruction during performance, giving directions, and giving extended information changed significantly from Phase I to Phase III. However, evidence that the coach was able to increase or

Table 4

Comparison of Percent and RPM of Phase I and III Coach Behavior

	Percent		RPM	
Category	Phase I	III	Phase I	III
Praise (2)	.07	.06	.15	.26
Praise/Reinstruct (2-5)	.04	.15	.08	.62
Acceptance (3)	.09	.10	.18	.42
Questions (4)	.08	.09	.16	.40
Instruction during Performance (8-5, 8\5)	.15	.22	.33	.92
Gives Directions (6)	.13	.03	.28	.14
Hustle Behavior (6H)	.05	.05	.11	.21
Criticism (7)	.01	--[a]	.01	.01
Constructive Criticism (7-2)	.02	--[a]	.03	.04
Criticism/Reinstruct (7-5)	.01	--[a]	.02	.01
Constructive Criticism/ Reinstruct (7-2-5)	.06	.05	.11	.22
Extended Information (5-5)	.29	.12	.64	.52
Time Information (T-5)	--[b]	11	--[b]	.45
Use of Athletes' Names	--[c]	--[c]	.27	1.13
Total Behaviors	1.00	1.00	2.09	4.20

Note. [a]Percentages were not included, as the behavior occurred <1% of the time. [b]Category was added in Phase II. [c]Percentages of names were not included, as they are used with all categories.

decrease the use of behaviors can be found by examining the RPM of behaviors in Phases I and III.

The RPM of each behavior was recorded and a comparison from Phase I to Phase III is shown in Table 4. In terms of RPM, the coach was able to dramatically increase the use of praise/reinstruct from .08 RPM in Phase I to .62 RPM in Phase III by giving athletes specific, rather than general, feedback. The use of questioning by the coach more than doubled from .16 RPM in Phase I to .40 RPM in Phase III. By concentrating on providing athletes with information while practicing a technique, the coach increased the use of instruction during performance from .33 RPM to .92 RPM. The coach attempted to provide athletes with encouragement throughout practice, and doubled her use of the hustle behavior from .11 RPM in Phase I to .22 RPM in Phase III. The coach's use of extended information decreased as desired, from .64 RPM in Phase III to .52 RPM in Phase III. Finally, the coach dramatically succeeded in adding a more personal touch in communicating with athletes by using first names more often in Phase III (1.13 RPM) than in Phase I (.27 RPM).

In addition to the aforementioned targeted behaviors, the coach also increased the use of praise, acceptance, constructive criticism, and constructive criticism/ reinstruct. From Phase I to Phase III, the coach also

decreased the use of directions, criticism, and criticism/reinstruct.

Examination of Athletes' Perceptions of Effectiveness of

Self-Assessment

In order to examine the athletes' point of view concerning the coach's behaviors, the APQ was used. The APQ measured the swimmers' opinions in an open-ended fashion. The researcher administered the APQ at the end of Phase I and Phase III. The coach did not have access to any of the completed questionnaires until after Phase III had concluded. Therefore, the coach did not utilize the questionnaires to provide feedback or set goals for the self-assessment program. The APQ were simply utilized to determine whether the athletes recognized the coach's change in behaviors during the course of the study.

Within the questionnaire, the athletes were asked to comment on the coach's use of praise, praise/reinstruct, acceptance of ideas, questioning, criticism, and constructive criticism. Further, athletes were asked, "What do you like best about the coach's behaviors?" and "What would you like to see the coach change in terms of coaching behavior?" In order to determine whether the athletes perceived the self-assessment program to be effective in aiding the coach to change behaviors, the APQ data from Phase I can be compared to the Phase III data.

The athletes' responses following Phase I included several positive comments, in addition to expressing a need for some change in the coach's behavior. Recurring observations that emerged from Phase I included:

1. Several athletes commented on the coach's frequent use of praise and encouragement. One swimmer stated, "She is very encouraging and keeps me aware of my improvement and what I should be striving for." Another athlete commented, "The coach does a very nice job with encouragement during practice." One athlete noted, "She very clearly describes the positive aspects of a particular race or practice so that I am aware of what I am doing correctly."

2. Some athletes commented that the coach did not seem to ask questions of athletes. One athlete remarked, "I don't normally hear questions being asked." Another athlete stated that the coach "doesn't really ask too many questions."

3. The athletes seemed to agree that the coach did not use harsh criticism during practice. An athlete stated, "I have never experienced or witnessed any criticism, anger, or sarcasm." Another swimmer confirmed, "She is always positive towards the swimmers." One athlete remarked, "I have never seen my assistant coach lose her temper or act in an unprofessional manner."

4. Some athletes desired the coach to simply provide feedback more frequently to all swimmers. One athlete

advised the coach to "speak up more in practice. She is so talented, but because she is so laid back, she often misses opportunities to give advice." Another athlete confirmed, "(coach) is often quiet." In all, six of the 24 athletes responding to the questionnaire stated that they would like the coach to become more verbally involved during practice.

The Phase III questionnaires contained a more positive overall perception of the coach's behaviors. Several athletes recognized a change in the coach's behaviors, while a few athletes indicated a need for further improvement as described below:

1. Several swimmers commented on an improvement or change in the coach's behaviors. One athlete stated, "At the beginning, she wasn't that vocal, but as she got comfortable with the team, she began to become more vocal." Another athlete commented that the coach's use of praise and encouragement was "definitely better during taper." The taper portion of the season was encompassed by Phases II and III. Another swimmer noted, "Especially at the end of the season, (coach) provided a lot of support, and constructive criticism. I feel that this helped me to feel better about my strokes and more confident going into (the championship meet)." An additional athlete commented, "I think that she improved. She became more outgoing, and felt more comfortable criticizing and providing support."

2. Despite the overall feeling of improvement, some athletes still desired additional feedback. One athlete desired the coach to expand her feedback to include all strokes, stating, "Be more versatile with criticism about other strokes." Another athlete commented, "(Coach) could be more aggressive. I think she has a lot of very good ideas to share with us, we just need to listen."

Summary

The effectiveness of a self-assessment and goal-setting program as a means to change a coach's behavior was examined. The SAFI was the instrument used to collect data concerning the coach's behavior. The APQ was used to collect data on the athletes' perceptions of the coach's behavior. The data from Phase I was compared to that of Phase III for the SAFI to determine whether a change in coaching behavior had occurred. The APQ responses from Phase I were compared to the responses from Phase III to determine whether the athletes' perceptions supported the SAFI data.

To establish coder reliability, Dr. Victor H. Mancini, an expert in the coding of the SAFI, coded two randomly selected practices at two separate times. A Spearman rank-order correlation of the top 10 cells for each practice revealed a correlation of .98, which was sufficient to establish coder reliability. The APQ responses were examined on two separate occasions to determine common ideas

concerning the athletes' perceptions of the coach's behavior.

Examining the SAFI data from Phase I enabled the coach to target behaviors for change. The coach desired to increase the use of praise/reinstruct, questioning, instruction during performance, hustle, and athletes' names. The coach also selected the goal of decreasing the amount of extended information given. A comparison of the SAFI data from Phase I and Phase III revealed that each of the coach's behavioral goals had been achieved.

The APQ data was examined to determine whether the athletes' perceptions of the coach's behavior differed after the self-assessment program. The athletes' statements did indicate an overall feeling of improvement in the coach's behaviors following the use of self-assessment.

Based on the SAFI and APQ data, the self-assessment program was determined to be effective in aiding a coach in changing targeted behaviors. The null hypothesis was rejected, as there was a significant difference in the coach's behavior before and after completing the program.

CHAPTER 5

Discussion of Results

Coaches have searched for methods to improve the performance of their athletes. In addition, coaches must recognize that improving their own behaviors will benefit their athletes as well as themselves. By assessing coaching behavior, coaches can identify desired areas to change, monitor the changes, improve overall interactions with athletes, and enhance their effectiveness.

The purpose of this study was to examine the effectiveness of a self-assessment program as a method to improve a swim coach's behaviors. The SAFI was the instrument used to observe and record the coach's behaviors. The APQ was used to record the athletes' perceptions regarding the coach's behaviors. The investigation revealed findings supporting previous studies on self-assessment for coaches and teachers. The SAFI results indicated that self-assessment was effective in aiding a coach to change desired behaviors. The athletes' responses recorded with the APQ supported the SAFI results, as the athletes reported changes in the coach's behavior after the coach's use of self-assessment. This chapter will discuss the results of the study and compare them to those of similar studies.

This study contained three phases. The first phase consisted of collecting baseline data of the coach's

behaviors, using the SAFI. Athletes completed the APQ to comment on their perceptions of the coach's behaviors during Phase I. Following the Phase I, the coach set goals for changing specific behaviors based on the SAFI data. The coach targeted goals of increasing the behaviors of praise/reinstruct, questioning, instruction during performance, and hustle, while using athletes' names more frequently. The coach also selected the goal of decreasing the amount of extended information given.

During Phase II, the coach monitored her behaviors for each practice using the SAFI, comparing the data to her goals. Phase III included collection of post-treatment SAFI data to determine whether the coach changed the targeted behaviors. The athletes completed the APQ to comment on the coach's behavior after the self-assessment program. The SAFI data indicated that the coach was indeed successful in changing the targeted behaviors as a result of viewing videotaped practices, using the SAFI, setting goals, and monitoring progress towards the goals. The athletes' responses to the APQ also revealed an overall feeling of improvement in the coach's behaviors.

The most significant areas of improvement were found in the behaviors of praise-reinstruct and instruction during performance. The coach wished to increase both of these behaviors, and was successful in implementing the change.

Instead of idly watching practice, the coach became more involved by frequently offering instruction. Further, the instruction was more meaningful. The coach was able to give statements, such as "Great job with keeping the elbow high; make sure you pull all the way through." This statement is more valuable to the athlete than simply, "Great job," as it offers information in addition to praise.

Another area in which the coach was able to improve was in communicating more personally with the athletes. Using an athlete's name adds a personal touch to any comment, and is often encouraging. After discovering that in Phase I, she used athletes' names only .27 times per minute, the coach implemented a goal achievement strategy of always using an athlete's name when giving instruction. Therefore, "Keep your head low," became, "Kathy, keep your head low." The coach was able to dramatically increase the use of names to 1.13 RPM.

In another attempt to personally encourage the athletes, the coach targeted the use of the hustle behavior. Again, the coach was able to improve, doubling the use of this behavior from .11 to .22 RPM. During difficult sets, athletes would often hear the coach saying, "Keep it up, Megan!" or "Push it harder, Katie!" This type of encouragement helped to create a positive environment for all athletes.

The coach also wished to increase the use of questioning. This behavior would aid in engaging the athletes in critical thinking about the technique and skills involved in swimming. The coach was able to increase the RPM of questioning from .16 to .40. More frequently, the coach asked questions, such as, "Beth, how can you improve your body position?" or "Erin, why do you think your time was faster on that 50?" This type of questioning will enable athletes to think for themselves and solve problems on their own.

The increase in questioning and encouraging athletes to think for themselves also helped the coach achieve her goal of decreasing the behavior of giving directions. Instead of directing athletes and telling them what to do, the coach increased her use of indirect behaviors. The coach decreased the percentage of time spent giving directions from 13% in Phase I to 3.4% in Phase III. The RPM of giving directions also decreased from .28 to .14. The decrease in time spent giving directions allowed for more time indirect communications and asking questions of the athletes.

In order for the athletes to spend more time engaged, the coach targeted a decrease in the giving of extended information. In examining the SAFI data from Phase I, the coach found that 29% of her behaviors were giving extended information. The coach gave extended information at a rate

of .64 per minute. During Phases II and III, the coach attempted to give instructions that were more concise. The coach was successful, as only 12% of her behaviors in Phase III were extended information, and the RPM of this behavior decreased to .52. This decrease in time spent giving information allowed more time for athletes to practice skills or receive appropriate feedback from the coach.

Through the APQ, the athletes reported their perceptions of the coach's behaviors. Following Phase I, the athletes stated that the coach used praise and encouragement, but failed to question the athletes. The athletes also acknowledged a desire for more feedback of all types. After the coach completed the self-assessment program, the athletes reported improvement in the coach's behaviors. The athletes described the coach as giving more overall feedback, especially in the areas of praise, encouragement, and constructive criticism. The athletes' perceptions supported the SAFI data, in terms of the coach's overall change in behaviors.

The use of the self-assessment program, including viewing of videotaped practices, using the SAFI, setting goals, and monitoring progress towards the goals, was found to be effective in changing a coach's behaviors. The coach was able to make desired improvements in behavior. The analysis of the data in this study indicated that the

findings are similar to that of previous studies. The results of this study, along with that of previous studies, support the notion that coaching behaviors can be changed with the use of the SAFI and a goal-setting process.

Studies performed by Gula (1989), DeMarco (1992), Gordon (1992), Cifone (1992), Buchanan (1993), and Pallozzi (1993) included a three-phase procedure similar to that of this study. Each study utilized the SAFI as a measure of coach behavior. Each study attempted to determine whether a coach could target behaviors for change, undergo self-assessment, and actually exhibit changes in behavior.

Gula (1989) performed the first study of this kind in which the researcher served as the subject. This study involved the soccer coach setting goals based on data from the Group Time Management Instrument (GTMI), in addition to the SAFI. The researcher recognized that by Phase III, the coach was able to create more effective practices by using more praise/reinstruction, criticism/ reinstruction, hustle behavior, players' names, and instruction during performance. In addition, the coach was also able to decrease the amount of directions. The researcher concluded that the coach achieved his goals of changing specific behaviors as a result of the self-assessment process. The present study produced findings similar to that of Gula, including an increase in the coach's praise/reinstruction,

instruction during performance, and the use of players'
names. Both studies also discovered a decrease in the amount
of directions given by the coach. The coach in each study
was successful in achieving behavioral goals through the use
of self-assessment.

In a similar study, Cifone (1992) examined the
effectiveness of systematic supervisory feedback (SSF) and
the SAFI as a means of changing a lacrosse coach's behavior.
In addition to using the SAFI during three phases of
practices, Cifone studied a fourth phase - games. The fourth
phase was intended to compare the coach's game behavior to
her practice behavior. The coach was able to achieve her
goals of increasing praise/reinstruct, instruction during
performance, the hustle behavior, constructive
criticism/reinstruct, and of decreasing criticism, extended
information, and giving directions. In examining data from
Phase IV, the coach exhibited more hustle behaviors and
instruction during performance in games than in practices.
The researcher concluded that the use of SSF and the SAFI
helped the coach to change targeted practice behaviors.
Although the present study did not examine the coach's
behavior at swim meets, the swim coach was able to change
targeted practice behaviors in the same manner as the
lacrosse coach.

Gordon (1992) investigated the use of the SAFI as a means to aid a basketball coach in changing behavior. Using a three-phase procedure, the coach was able to reach his goals in terms of changing behavior. The coach increased the use of praise/reinstruct, criticism/reinstruct, hustle, questioning, and the use of players' names. In the present study, the coach was also able to increase her use of the same desired behaviors. Gordon concluded that self-assessment is an effective method to aid a coach in changing his behaviors.

DeMarco (1992) investigated the use of self-assessment as a method to change the behaviors of a baseball coach. The researcher used the SAFI, the Coach's Performance Questionnaire (CPQ), and the coach's personal journal to measure and describe the coach's behaviors. As a result of the self-assessment process, the coach became more aware of his behaviors. In addition, the coach began to utilize more indirect behaviors, such as questioning, to become more effective. The researcher concluded that self-assessment was an appropriate method to improve a coach's behaviors. In the present study, the coach was also able to increase the use of indirect behaviors, including an increase in questioning. Both studies support the self-assessment process as a means to change a coach's behaviors.

Pallozzi (1993) also used the SAFI and CPQ in combination with a self-assessment program to aid a softball coach in changing her behaviors. Analysis of Phase III SAFI data indicated that the coach was able to make desired changes in all targeted categories, with the exception of questioning. The coach achieved an increase in praise/reinstruction and instruction during performance, while decreasing the use of criticism and extended information. The CPQ data revealed that the coach was better able to accurately perceive her own behaviors as a result of the self-assessment program. Similar to the softball coach, the swim coach in the present study was able to increase the use of praise/reinstruction and instruction during performance, while decreasing extended information. The swim coach also did not achieve a significant increase in the behavior of questioning, in terms of percentage. However, the coach was able to increase questioning in terms of RPM.

Buchanan (1993) studied the effectiveness of self-assessment as a method of changing a baseball coach's behaviors. Similar to Gula (1989), DeMarco (1992), Cifone (1992), Pallozzi (1992), and the present study, Buchanan utilized the SAFI to determine whether a coach could change targeted behaviors. The coach was able to increase the use of players' names, the hustle behavior, praise/reinstruct, instruction during performance, and constructive criticism/

reinstruct, while decreasing extended information. Since the coach was successful in achieving his goals, the researcher concluded that self-assessment was an effective method of changing a coach's behaviors. In the present study, the swim coach was able to increase or decrease the same targeted behaviors as the baseball coach, in terms of RPM.

The present study also utilized the SAFI to determine whether a coach could change targeted behaviors. The findings from the SAFI, in addition to the support from the APQ, revealed that the coach was successful in improving her behaviors to become more effective. Therefore, the findings from the present study support the conclusions from previous research.

Summary

The purpose of this study was to determine the effectiveness of a self-assessment program in aiding a coach to change targeted behaviors. Data was collected through the use of videotaping, the SAFI, and the APQ. The coach was able to change all targeted behaviors, with increases in praise/reinstruct, questioning, instruction during performance, hustle, and the use of athletes' names. The coach also decreased the use of extended information. The athletes noticed the change in the coach's behaviors, as noted in their responses on the APQ. The self-assessment

process was effective, as it enabled the coach to change her behaviors, and the change was recognized by the athletes.

Data collected in the present study were similar to that of previous investigations. Studies completed by Gula (1989), Cifone (1992), DeMarco (1992), Gordon (1992), Buchanan (1993), and Pallozzi (1993) examined the use of self-assessment programs using the SAFI for coaches. Each researcher indicated that self-assessment was an effective method in aiding a coach to change behaviors. Specifically, all of the coaches in the investigations of Gula, Cifone, Pallozzi, and Buchanan were able to increase the use of praise-reinstruct and instruction during performance, while decreasing the use of either directions or extended information. As DeMarco (1992) found, the coaches adopted more indirect behaviors and abandoned the frequent use of direct behaviors.

This study, as well as previous investigations, supports the use of a self-assessment program. Coaches may utilize videotaping, the SAFI, and other tools, such as the APQ, to effectively change their behaviors.

CHAPTER 6

Summary, Conclusions, and Recommendations

Summary

The purpose of this study was to examine the
effectiveness of a self-assessment program as a method to
help a coach to improve desired behaviors. The subjects for
the study were one female collegiate swim coach and 30
female collegiate swimmers. The study consisted of three
phases, which each contained five videotaped practices. The
SAFI was used to record the coach's behaviors throughout all
videotaped practices. An expert coder was utilized to
accurately code the practices with the SAFI. The APQ was
administered to the athletes after the first and third
phases to measure the athletes' perceptions of the coach's
behaviors.

Phase I consisted of the collection of baseline data on
the coach's behaviors and athletes' perceptions of them
before the treatment of the self-assessment program. The
coach utilized the SAFI data collected in Phase I to target
behaviors for improvement, set goals for these behaviors,
and identify achievement strategies for each goal. In Phase
II, the coach monitored progress towards the goals by
examining the SAFI data for each practice. In Phase III,
post-treatment data were collected with the SAFI, and final

perceptions of the coach's behavior were recorded with the APQ. The SAFI data from Phase I was compared to that of Phase III to determine the effectiveness of the self-assessment program. In addition, the open-ended responses on the APQ from Phase I were compared to the responses of Phase III on two separate occasions to determine whether the athletes' responses supported the findings of the SAFI data.

To establish coder reliability, an expert in the coding of the SAFI coded two randomly selected practices at two different times. A Spearman rank-order correlation was used to compare the top 10 cells for the coded practices. The correlation was .98, which was considered sufficient to establish reliability. Responses on the APQ were considered reliable when two or more athletes expressed a similar view on the same coaching behavior.

The raw SAFI data was converted into percentages of behaviors and RPM. The percentages indicated the proportion of time the coach spent for each behavior. The RPM represented the number of behaviors the coach exhibited per minute. In examining the APQ, the athletes' responses were searched for similarities and replication of ideas.

Descriptive statistics were used to compare the SAFI data from Phase I and Phase III in order to determine whether changes in behavior had occurred. In addition, the APQ data from Phase I and III were compared to determine

whether athletes perceived a change in the coach's behaviors.

Analysis of the data revealed that changes in behavior had occurred from Phase I to Phase III. The coach was able to improve all targeted behaviors. The coach increased the use of athletes' names, praise/reinstruct, questioning, instruction during performance, and the hustle behavior, in terms of RPM. The coach also decreased the use of extended information as desired. Examination of the APQ data indicated that overall, the athletes perceived a change and improvement in the coach's behaviors.

The findings of this study indicated that self-assessment is an appropriate and effective method to aid a coach in changing and improving behavior.

Conclusions

The following conclusions are supported by the findings of this investigation:

1. The use of a self-assessment program, including videotaping, coding with the SAFI, targeting behaviors for change, setting goals, identifying goal achievement strategies, and monitoring progress with the SAFI, can help a coach to change and improve behaviors.

2. The self-evaluation of coaching behaviors, along with feedback from athletes, can help the coach to exhibit desired behaviors with athletes.

Recommendations for Further Study

The following suggestions are made for future research:

1. Conduct a follow-up study on coaches who have utilized the SAFI in the past to determine whether the changes achieved are lasting.

2. Conduct an investigation to determine whether the self-assessment program is effective for coaches of youth sport.

3. Conduct an investigation to determine whether the frequent use of athlete feedback alone is sufficient to elicit a change in coaching behavior.

INFORMED CONSENT FORM

1. Purpose of the study:

The purpose of the study is to describe and analyze the coaching behaviors of a collegiate swim coach.

2. Benefits of the study:

The results of the study will provide the coach information about her coaching behaviors and interaction patterns. The results will aid coaches in improving the practice environment for all swimmers.

3. Your Participation Requires:

You will be asked to participate in the following manner: Permit the researcher (Michelle Moosbrugger, graduate student at Ithaca College) to videotape swim practices. During this time, each videotape will be coded using the Self-Assessment Feedback Instrument (SAFI). At two different times during the study, you will be asked to complete a questionnaire concerning this season's swim practices.

4. Risks of Participation:

There are no foreseeable physical or psychological risks associated with this study, outside of regular participation in swim practices. The purpose of coding of the videotapes is not to evaluate you as a swimmer. The coding simply describes coaching interaction patterns.

5. More Information

If you would like more information at any time during this study, please contact Michelle Moosbrugger at 256-0593.

6. Withdrawal from the Study:

Your participation in this study is voluntary. You may withdraw at anytime. Please inform the researcher if you wish to do so.

7. Confidentiality:

All data collected in this study will be kept confidential. Videotapes will be viewed only by Dr. Mancini and Dr. Wuest, my thesis advisors, and myself.

I have read and understood the above statements. I agree to participate in this study. I acknowledge that I am 18 years of age or older.

_____   _____

Signature of Participant   **Date**

Self-Assessment Feedback Instrument (Mancini & Wuest, 1989)

Name _____   Date _____

Directions: Classes/practices are divided into 10-minute segments for ease of observation. During each 10-minute segment, place a tally next to the appropriate behavior category each time this behavior occurs. The use of various behaviors may be calculated in terms of percentage of total behaviors or as rate per minute (RPM).

Category	0-10	11-20	21-30	31-40	Total	%	RPM
Praise							
Praise-Reinstruct							
Acceptance							
Questions							
Instruction During Performance							
Gives Directions							
Hustle Behavior							
Criticism							
Criticism/Reinstruct							
Constructive Criticism							
Other							
Total							

ATHLETES' PERCEPTIONS QUESTIONNAIRE

Answer the questions below concerning your assistant swim coach. The questionnaire is anonymous, and your answers are confidential. You can be completely honest. Please place a check next to the phrase that you feel describes your assistant coach. Then, you may write any comments below.

1. My assistant coach praises and encourages the swimmers

_____ often.   _____ a few times per practice.

_____ sometimes.   _____ almost never.

Comments about the coach's use of praise and encouragement:

2. My assistant coach tells the swimmers exactly what they are doing correctly

_____ often.   _____ a few times per practice.

_____ sometimes.   _____ almost never.

Comments about the coach telling the swimmers what they are doing correctly:

3. My assistant coach accepts the swimmers ideas, behaviors, and feelings

_____ often.   _____ a few times per practice.

_____ sometimes.   _____ almost never.

Comments about the coach accepting ideas, behaviors, and feelings:

4. My assistant coach asks questions requiring the swimmers to answer

_____ often.   _____ a few times per practice.

_____sometimes.   _____ almost never.

Comments about the coach's questioning:

5. My assistant coach uses criticism, anger, or sarcasm directed towards the swimmers

_____ often.   _____ a few times per practice.

_____ sometimes.   _____ almost never.

Comments about the coach's use of criticism, anger, or sarcasm:

6. My assistant coach tells the swimmers exactly what they are doing incorrectly, and then gives information on how to improve.

_____ often.   _____ a few times per practice.

_____ sometimes.   _____ almost never.

Comments about the coach's use of constructive criticism:

7. What do you like best about the assistant coach's behaviors?

8. What would you like to see the coach do to change in terms of coaching behavior?

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