

Effect of a mentoring through reflection program on the verbal behavior of beginner volleyball coaches: a case study.

Efecto de un programa de supervisión reflexiva sobre la conducta verbal de entrenadores principiantes de voleibol: un estudio de casos.

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Abstract

The purpose of this study was to modify the verbal behavior of volleyball coaches during competition. Three beginner volleyball coaches were included in a formative program that included supervisory feedback plus systematic analysis of the coaches' verbal feedback, as well as the coaches' own observations and self-corrections of their behavior during the competitive season. The outcome variable of interest was the verbal behavior of the coach during timeouts during games, with consideration given for two specific dimensions of behavior: the type of information provided to the team and the team to which the coach made reference. The results revealed a change in the verbal behavior of the coaches, which was principally demonstrated in an increase in amount of tactical information and information provided about the opponent.

Resumen

El propósito de este estudio fue modificar la conducta verbal del entrenador de voleibol durante la competición. Tres entrenadores de voleibol fueron sometidos a un programa formativo (feedback de supervisión con análisis sistemático de la conducta verbal del entrenador, y visionado de la actuación) durante una temporada de competición. La variable dependiente de la investigación fue la conducta verbal del entrenador durante los tiempos muertos, considerándose dos dimensiones en la misma: tipo de información, equipo al que hace referencia la información. Los resultados obtenidos muestran una modificación en la conducta verbal de los entrenadores, manifestada fundamentalmente en el incremento de información táctica y sobre el equipo contrario.

Key words: Mentoring through reflection, verbal behavior, coach, volleyball, competition.

Palabras clave: Supervisión reflexiva, conducta verbal, entrenador, voleibol, competición.

Introduction

The behavior of the coach during practice and competition is one of the many variables that influence performance. This knowledge has stimulated growing interest among researchers and has contributed to the development of numerous studies on this topic over the past decade (e.g., Abraham & Collins, 1998; Cushion & Jones, 2001). In the process of teaching and learning diverse sport skills, the coach's behavior (Woods & Lynn, 2001), and particularly the feedback provided by the coach (McGown, 1994; Rink, 1994) have come to be regarded as primary influences upon athlete learning and performance. Among the primary areas for potential intervention with the coach during competition include attention to the type of instruction and feedback that the coach provides (Isberg, 1993; Smoll et al., 1978; Smith et al., 1983). According to coaches themselves, "speaking with the players" is the most important interactive decision that they most frequently encounter during competition (Gilbert, Trudel & Haughian, 1999).

The content of the verbal information provided by the coach during competition has been a variable considered to be important and worthy of investigation and this attention has been reflected in the development of different observational tools such as the Systematic Analysis of Pedagogical Content Interventions (SAPCI: Gilbert, Trudel, Gaumond et al., 1999), and the SAIC (System of Analysis of Information during Competition) as developed by Pina and Rodrigues (1993). A more specific instrument was developed by Hastie (1999) for the analysis of information and feedback provided by coaches. This researcher developed the scale in reference to four fundamental categories of feedback and information and with specific application to the sports of basketball, volleyball, and ice hockey. The four categories relate to technical information, tactical information, psychological feedback, and "other" aspects.

With regard to the content of information provided, research points to the relevance and importance of tactical information provided by the coach during competition. Hoffman (1983) commented that among the fundamental capacities necessary for effective coaching, that coaches' capacities to identify technical and tactical errors, as well as their ability to prescribe solutions to those errors, are fundamental to success. These skills can be manifested in strategic decisions and decisions to intervene by the coach, as well as in the type of feedback provided by the coach to the players. In this regard, tactical information ought to refer to concrete, specific, and relevant aspects of the competition (Beal, 1989; Gipson, Lowe, & McKenzie, 1994; Ker, 1996; Rodrigues & Pina, 1999).

The verbal feedback of the volleyball coach during competition ought to make reference to the action of the coach's own team as well as to the opposing team (Cloes, Delhaes & Piéron, 1993; Ker, 1996). Providing information that considers the actions of the coach's own team in relation to the opponent, and vice versa, contributes to the contextualization of information and permits the coach to take advantage of his or her own team's strong points and to minimize the weaker aspects of play, as well as any inappropriate responses to the opponent's style of play.

The consideration of different approaches to the provision of information by the coach during volleyball competition has been suggested in previous research (Bloom, Durand-Bush, & Salmela, 1997; Cloes et al., 1993; Hastie, 1999; Pina & Rodrigues, 1993). Rink (1996), in referring to the general process of sport coaching, highlighted the importance to the coach of appropriately selecting the moment at which feedback will be provided, ensuring that the fundamental aspects related to the provision of this information have been previously identified and structured.

During volleyball competition, and in relation to the rules of the game, we can differentiate five distinct opportunities during which the coach can provide information to the players: prior to the match (the three minutes preceding the encounter after the referee has indicated that the match shall begin); during the match (including the breaks between points); when players are substituted; breaks between sets (the three minute period between the conclusion of one set and the start of the subsequent set); and during time outs (the 30 second break requested by coaches of which there are a maximum of two per set). Time outs represent points of particular importance in the direction of the team during competition (Drauschke et al., 1994; Herrera, Ramos, & Mirella, 1996; Ker, 1996) because time outs allow the coach to attempt to influence the rhythm of the match, to enable the provision of tactical information for all of the team's players, and in relation to the possibility that the coach can modify the outcome of the set, given that time outs occur before the set has been finished.

The forerunner in the use of mentoring through reflection programs can be found in teaching training (Perron & Downey, 1997; Wendt & Bain, 1989), and sports coaching (Mancini, Clark, & Wuest, 1987; More & Franks, 1996). The aim of these programmes has been to attempt to modify the verbal feedback of the teacher or coach (in training or competition) through the application of a systematic observational system (Barata & Lacoste, 1990; Mancini, Wuest, & Van der Mars, 1985; More & Franks, 1996; Sanz, 2003). Such programs have proven to be effective in modifying teacher or coach verbal behavior. In this regard, programs have been successful in increasing the amount and frequency of feedback and in providing a similar amount of feedback to individuals within the group (Barata & Lacoste, 1990); in decreasing the amount of inappropriate feedback that is provided (incorrect tactical or technical information that erroneously assesses the student's or athlete's performance or which is insufficiently clear or irrelevant to the performance of the individual), More and Franks (1996); and in increasing the quality of specific and prescriptive feedback by the coaches (Sanz, 2003). In order to achieve the above objective, the mentoring programs have focused on improving the ability of teachers and coaches to reflect on their own actions (Kirk, 1986; Schon, 1987). By means of this kind of program, the aim is for the coaches to be more reflective and to think in a critical manner (*Mentoring Through Reflection*, Cushion, Armour, & Jones, 2003); understanding why they do what they do.

In this study, we present the application of a program that includes supervisory feedback and systematic analysis of the verbal behavior of volleyball coaches, with the intended purpose being to modify coaches' behavior in the intended manner, and particularly to modify the coaches' verbal behavior during competition, recognizing the relevance that these changes can have in the performance for the team (Isberg, 1999).

The research we present in this article forms part of a broader study focussing on optimizing the verbal behavior of volleyball coaches at the different moments of the provision of information which we can differentiate during team management in competition, intervening in six dimensions of the information.

The importance given to time outs in team management in volleyball has led us to carry out numerous studies focused on recognizing the main characteristics of the information provided at those moments, bearing different variables in mind: the sex of the players in the team (Botelho, Mesquita, & Moreno, 2005; Mesquita, Botelho, & Moreno, 2005); the team which asks for the time out (Moreno, Moreno, Cervelló et al., 2004); the team level (Moreno, Moreno, Muñoz et al., 2004, a study carried out with teams participating in the Spanish School Volleyball Championships; Moreno, Moreno, Fuentes et al., 2004).

In this article, we concentrate on the analysis and optimization of the verbal behavior of volleyball coaches during time outs, by means of the application of a programme of reflective mentoring, with particular emphasis on the prioritization of tactical information and an associated increase in the provision of information concerning the nature of the opponent's play.

Method

The sample comprising the study consisted of three beginning male volleyball coaches, each of whom had at least two years of coaching experience and each of whom had coached teams of in the Spanish Second Division, which constitutes a moderate level of national competition. The dependent variable in this study was the verbal behavior of the coaches during time outs that occurred during the competition. The analysis of verbal behavior considered two types of information: the *content* of the information provided and the *focus* of the coach's comments. With regard to the content of the information provided, the coach's comments were examined in terms of whether the information was related to tactics or to psychological aspects or play and the focus of the contents was examined relative to whether it was directed toward the coach's own team or toward the opponent.

The categorization of verbal feedback was considered according to certain criteria. Tactical or strategic feedback consisted of comments by the coach about decisions or appraisals of the situation made by the players, including their angles of attack, court coverage, open spaces of free zones, strong and weak points, the interrelationships among the players on the court in reference to the pre-game plan or general patterns of response of the team to the technical aspects of the game. These comments were also examined according to whether the coach directed them toward their own team or toward the opponent.

General psychological comments from the coach included comments related to the team's play and the opponent's play on the court that made any reference to the cognitive or emotional dimensions of their involvement including concentration, motivation, attention, arousal or anxiety, and attitude. These comments were coded according to whether they were comments referring to the coach's own team or toward the opponents.

Research Design and Intervention

A quasiexperimental design was employed in this study with three different stages of the intervention: Phase A (3 sessions), Phase B (7 sessions) and Phase A' (2 sessions). The intervention program was designed to influence the verbal behavior of the coach and the videotapes of each coach's verbal feedback was made available to them for their analysis according to supervisory feedback. The mentoring through reflection program included the development of the following considerations according to the nature of the action on the court:

1. Reflection and self-evaluation of the coach about his own behavior while directing his team through the course of the game. The coach carried out the self-evaluation according to a number of pre-established categories and this evaluation.
2. Self-evaluation of the film session was conducted jointly with the supervisory feedback of the expert and the inclusion of systematic analysis of the coach's behavior during time outs. The importance of the coach taking the initiative in the analysis was stressed during the development of this phase, (Davies, 1994). The mentor indicated the fundamental element to be dealt with and later completed the analysis with the final provision of new proposals for action.
3. The coach received a final evaluation from the supervisor in relation to the specific objectives for change and in accordance with the issues identified. During this phase, once the visioning and analysis of the coach's action during the match ended, the mentor made an assessment of the coach's action, specifying action objectives which the coach should attempt to achieve in successive matches, proposing alternatives and proposals in order to try and solve significant problems in the coach's action during the match observed.

The verbal behavior of the coaches during the time outs during each of the competitions over the length of the season (12 matches) was captured on both audiotape and videotape through the use of cellular cameras.

Throughout the second stage of the intervention (7 sessions) and after the completion of each of the matches, the coaches were engaged in the supervision program. The supervised feedback sessions occurred no later than two days after the completion of the match in order to facilitate the memory of the trainer about his match behavior. The supervisor, who made information available through systematic data analysis regarding the verbal behavior of the coach during the timeouts had previously prepared these sessions.

Data Analysis

The analysis of the data occurred utilizing a transcription of the audio recording of the coach's verbal behavior and was carried out by a group of four transcribers who were knowledgeable about volleyball through their own experience as coaches, players, or sport science students.

In terms of coding the data, three trained individuals were employed to code the data. These data coders reached levels of intrarrater and interrater reliability of 80% or greater, which satisfied established criteria (Van der Mars, 1989). The specific values obtained for intrarrater reliability according to the specific categories of interest were: tactical feedback = .89, psychological feedback = .90, information about own team = .96, and information about the opposing team = .97. The values obtained for interrater reliability were tactical feedback = .89, psychological feedback = .87, information about own team = .93, and information about opposing team = .95. The data analysis program used was AQUAD (*Analysis of Qualitative Data Five, for Windows*), developed by Huber (1997).

Results

Given the applied nature of the research study with specific application at the individual level, in combination with the limited number of cases included such as occurred with More and Franks's study (1996), a descriptive data analysis was considered to be appropriate. In this regard, we analyzed the evolution of the verbal conduct of the coaches in competition during each of the sessions and stages (baseline, intervention, post-intervention) that comprised the investigation.

Although the verbal behavior of the coaches did not demonstrate a consistent and stable trend throughout the distinct competitive situations (see Figures 1 to 4), an examination of the course of the intervention revealed a general trend for an increase in tactical information, an overall increase in information about the opposing team (Figure 1 & Figure 4), and an overall tendency for a decrease in the tendency to provide psychological information and feedback pertaining to the coach's own team (Figures 2 and 3).

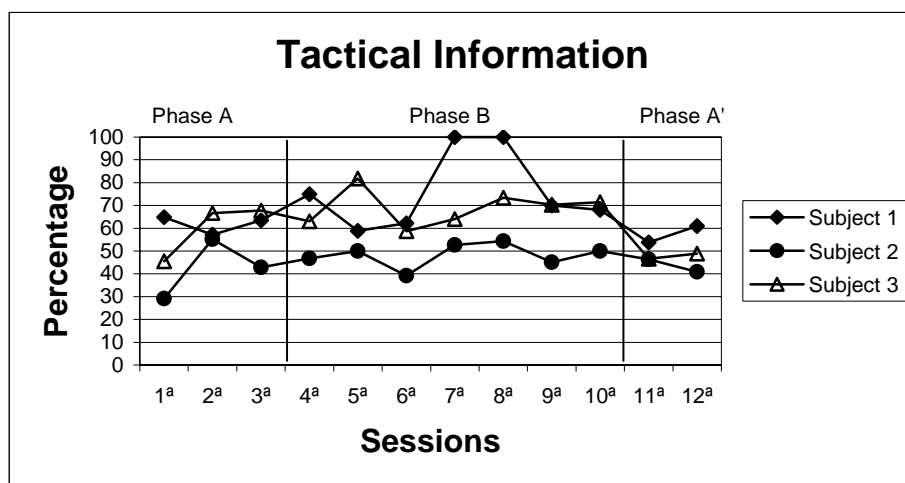


Figure 1. Percentage of tactical information provided by the coaches

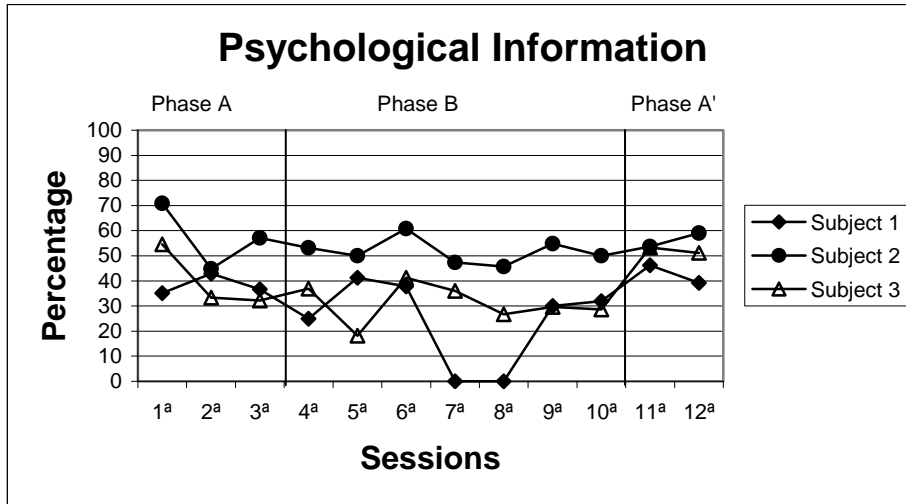


Figure 2. Percentage of psychological information provided by subjects 1, 2, & 3

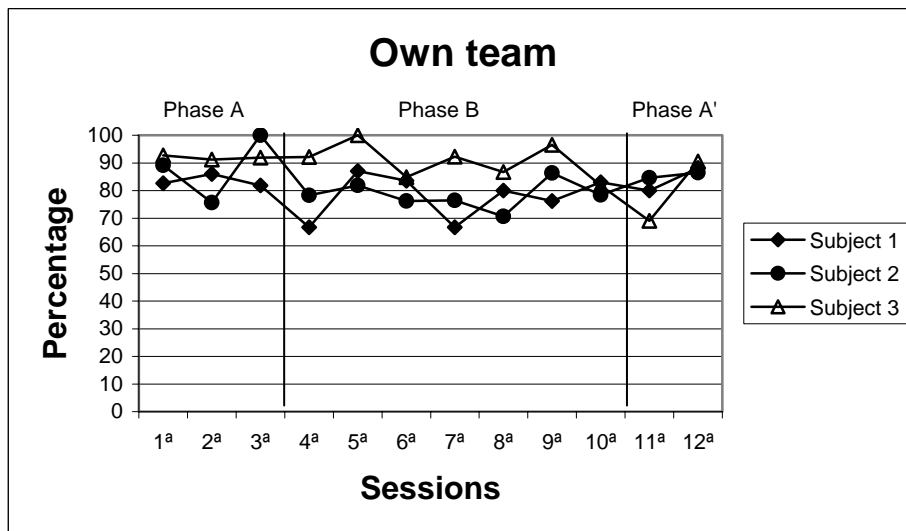


Figure 3. Percentage of information directed toward own team by subjects 1, 2 & 3

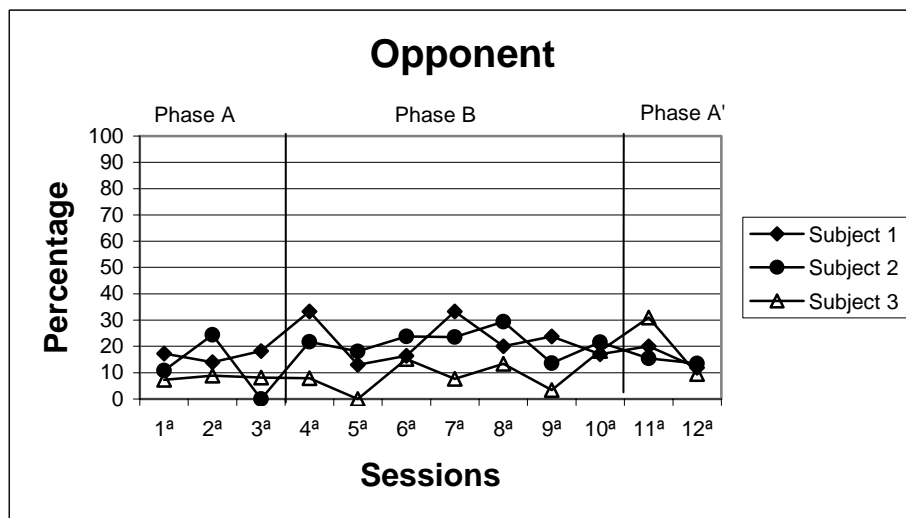


Figure 4. Percentage of information directed toward opposing team by subjects 1, 2 & 3

The tendencies identified are increasingly clear if we consider more closely the percentage of responses in each category on an individual coach basis (Table 1). The amount of tactical information provided and the amount of information provided about the opposing team increased for two coaches in Phase B, but the coaches did not maintain these changes after the intervention was discontinued. However, the remaining coach increased the amount of information provided about the opponent and maintained this pattern subsequent to the conclusion of the intervention. There was an overall decrease in the amount of psychological information provided by the coaches over the course of the study as well as a decrease in the amount of information provided by the coaches directed toward their own team.

Table 1. Average percentage of information relative to category

Category	Subjects	Phase A	Phase B	Phase A'
Strategic	Subject 1	61.80	76.29	57.36
	Subject 2	42.40	48.30	43.63
	Subject 3	59.99	68.96	47.76
Psychological	Subject 1	38.20	23.71	42.64
	Subject 2	57.60	51.70	56.38
	Subject 3	40.01	31.04	52.25
Own team	Subject 1	83.50	77.60	84.05
	Subject 2	88.25	78.31	85.56
	Subject 3	91.93	90.62	79.77
Opposing team	Subject 1	16.50	22.40	15.95
	Subject 2	11.75	21.69	14.45
	Subject 3	8.07	9.38	20.23

The result of the competition did not have a fundamental effect in shaping the pattern of verbal behavior of the coach over the course of the season given that the situations under which the coach's team did not win the match (2nd and 6th match for subject #1, 1st, 10th, and 12th match for subject #2, all matches in the case of subject #3,) were not matches in which the coach demonstrated unique tendencies nor were they matches in which the coaches demonstrated similar patterns of behavior among themselves with regard to the categories of investigation of interest.

Discussion

In this investigation, a formative and systematic intervention was carried out with volleyball coaches that focused on the verbal feedback of the coaches coupled with the provision of systematic analysis of verbal behavior for the coach and the availability of videotape for the coach regarding his behavior. The participants in the study were beginning volleyball coaches with the stated purpose of the intervention being to modify the verbal behavior of the coaches during competition in such a way that they provided a greater frequency of tactical information and information about the tendencies of the opposing team.

The results revealed changes in the pattern of verbal behavior of the coaches during the intervention phase of the study. These behavioral changes consisted of positive changes related to the increase in tactical information provided, in addition to an increase in the amount of information provided about the opposing team and in a continual decrease in the amount of psychological information provided about the coach's own team, such that the coaches' verbal behavior approximated the verbal feedback characteristics of coaches in other investigations (Beal, 1989; Cloes et al., 1993; Gipson et al., 1994; Ker, 1996; Rodrigues & Pina, 1999). The changes in verbal behavior were more evident for content of information as opposed to focus (own team vs. opponent) of the information. This fact we consider to be related to the difficulty for coaches in observing the actions of the opposing team during the course of the competition, which was an idea also expressed by the coaches themselves when receiving supervisory feedback.

The program of systematic observation coupled with supervisory feedback turned out to be effective in modifying the verbal feedback of coaches during time outs that occur in the normal course of volleyball matches, confirming the utility of these types of intervention programs in affecting the behavior of coaches (Barata & Lacoste, 1990; More & Franks, 1996; Sanz, 2003). The examination of the effectiveness of the intervention program, carried out with the use of systematic observation over the course of the season follows in the line of the work of Gilbert and Trudel (1999) in that it has the direct intent of designing and applying specific evaluation strategies during coaches' educational development.

The results indicated that when the supervisory feedback was withdrawn, that the changes in coach verbal behavior were not maintained. These findings need to be considered with some caution given the brief duration of the post-supervisory phase (2 matches) in relation to the total number of matches contested over the course of the season and given the tendency for an increase the number of sessions of intervention.

The verbal behavior of the coaches studied in competition showed some fluctuations throughout the supervisory feedback intervention. Overall, there was considerable intrapersonal variability in the verbal behavior of the coaches during the various matches contested. This variability in the behavior patterns of the coach has also been found in previous investigations (Rosado, Campos, & Aparício, 1993; Rushall, 1973). In the same way, Rodrigues (1997) found instability among mid-level (Second Division) volleyball teams in the pattern of verbal behavior that did not exist among First Division coaches, suggesting that level of coaching, or level of coaching experience and ability, may influence the verbal behavior of coaches. In our

investigation, the variability in the behavior of the coach over time is consistent with the findings of Rodrigues (1997) in that there did not appear to be a relationship between the competitive result and the coach's patterns of verbal interaction.

In closing, we believe that it is relevant to consider two important factors in the design of coaching intervention programs in relation to the present study. First, and in agreement with the work of More and Franks (1996), it is appropriate to display positive expectations about the efficacy and utility of the intervention program with developing coaches given the findings from this and other studies and given that positive change is the primary interest of supervisors in the initial phases of intervention.

Secondly, we wish to highlight the importance for coaches of acquiring competencies in observing and understanding that which is happening strategically during the course of the match, particularly given the difficulty that exists for coaches in effectively observing the actions of the opponent during the course of play (Moreno & Santos, 2004). The results obtained in our investigation permit us to suggest that, in the design of intervention programs for developing coaches, that efforts be made to focus developing coaches' attention on the need to improve their own competencies to identify the opponent's strategies over the course of the match and to respond with appropriate feedback to one's own team in order to effectively counterbalance these strategies.

Finally, we regard it as advisable to carry out further studies focussing on the analysis of the verbal behavior of volleyball coaches during time outs, depending on different variables: the team level; the coach's training and experience; the players' sex; the team which asks for the time out; the moment during the match, bearing in mind if the sets are definitive or not definitive. Lastly, we believe it necessary to try and establish the influence that the information provided by the coach during the time outs exerts on the players' action in the competition.

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