Accountability systems and instructional approaches in youth volleyball training

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Abstract
The purpose of this study was to examine accountability systems operating in youth volleyball training sessions and to understand how those systems vary according to the instructional tasks and the nature of the information provided by coaches. Additionally, the interactive effect of the players' age group on accountability systems and instructional tasks will be inspected. Twenty-eight youth volleyball coaches (for under 14s and under 18s) were observed, one training session each. Systematic observation strategies were used to describe and analyse task presentation and task structure during practice. Results convey that the accountability systems implemented by coaches were mainly implicit and governed by opportunity rather than explicit performance criteria imparted in task presentation. Remarks on the quality of performance only occurred during ongoing practice. More often than not coaches showed no reaction when athletes did not accomplish the tasks, failing to convey consequential expectancy-demand-monitoring messages. The instructional approach was predominantly composed of informing tasks, of technical nature and general information, which can reflect a technique and generalist coach profile. These results indicate the presence of weak and ambiguous accountability system, also corroborated by positive correlations of extending tasks with the category without exigency task presentation as well as with no reaction to unaccomplished tasks. There were no notorious differences in accountability behaviours between players' age group.

Key words: Accountability, instruction, coaching, youth sport, volleyball.

Introduction

Accountability is a critical component of a teaching-learning ecology in physical education classes and sport environments (Griffin et al., 1998), and refers to instructional process used to establish and maintain student responsibility for behaviour, task involvement, and outcomes (Balderson and Sharpe, 2005). Therefore, accountability is still seen as the instructional decisions used by teachers or coaches to ensure that students or players complete any given task (Lund, 1992), as well as a fundamental tool that should have influence on the practitioners' motivation (Roch and MacNall, 2007). Balderson and Sharpe (2005) indicate that when students are held accountable for certain actions, they tend to be more closely tied to follow and demonstrate those actions. According to the literature, the explicitness of the task presentation, the type of exigency and the verification of task accomplishment are particularly relevant for the accountability system to be efficient (Crouch et al., 1997; Hastie and Saunders, 1992; Jones, 1992).

It is intuitively sensed that the most effective teachers are those who are good at making presentations to students, which emphasize the importance of the academic content and what is expected to be learned (Brophy and Good, 1986; McClain, 2002). Insofar as the quality of the information provided by teachers can influence students' learning process, task presentation must be delivered in a way that students can have a clear idea to design an accurate motor plan for a movement response (Kwak, 2005) and that promote greater participation (McCaughtry et al., 2008). The explicitness of the presentation concerns the degree of completeness of task specification, and then ambiguity is greater when tasks are less explicit (Tinning and Siedentop, 1985). Silverman et al. (1995) analyzed *task explicitness in four components Outcome, Situation, Criteria-product,* and *Criteria-form*. The authors verified that task presentations that make explicit outcome, situation and criteria-product, were positively related to successful achievement.

Instructional tasks involve the behaviours of teachers and students that focus on content learning (Hastie and Siedentop, 2006), and are designed to help students learn subject matter (Doyle, 1977; 1983; Doyle and Carter, 1984). Along a continuum of skill development process, Rink (1993) considered that it is important to apply four types of instructional tasks on the teaching-learning process, i.e., informing tasks, refining tasks, extending tasks and applying tasks. As different studies showed instructional tasks modifications occur frequently for different reasons: a) students not conforming to the teachers' managerial expectations (Doyle, 1983); b) task is so ambiguous that students do not entirely understand it (Doyle, 1983; Silverman et al., 1995), and c) students are not held accountable for task completion, and so they do something other than what was intended by the teacher, namely they adjust such tasks to better suit their interests (Doyle, 1983; Jones, 1992; Lund, 1992).

Research has been highlighting how the nature of the content information provided by teachers or coaches differs in function of subject matter (Gilbert et al., 1999). Namely in sport games there are different components of subject matter (tactical, technical, rules,…) that need to be clearly explained and contextualized in the instructional tasks, and supported by *accountability* systems. For instance Hastie and Vlaisavljevic (1999) assumed that not considering the nature of content information provided by teachers has been a limitation of their study on accountability systems in the school environment. The analysis of the relation between the accountability systems operating in training session and instructional approach, either instructional tasks or content of the information will give a deeper understanding of the instructional process.

Finally one more aspect that assumes relevance to be studied in relation to those variables (accountability system, nature of the information provided by coaches and instructional tasks operating on the training setting) is the age group of the players, which is usually associated to different levels of practice. As Williams and Hodges (2005) argues, the nature of the information provided by the coach depends on the type of skill to learn, on the learning phase in which the athlete is, and on the complexity or difficulty of the task. Indeed instructional tasks are often complex and not always equally appropriate for learners of different backgrounds or skill levels (Supaporn et al., 2003). Silverman et al. (1998) suggested that understanding the teaching-learning process for learners of different skill levels requires much more information than merely examining all learners as a group. Given that learners' level of cognitive effort influences the quality of practice and that, at different practice levels, athletes have a different understanding of the task goals (Magill, 2000; Hodges and Franks, 2002), different instructional strategies will be requested in order to adjust task cognitive load. For these reasons, it will be pertinent to analyse the accountability system applied by coaches, taking in to consideration the nature of the information, the instructional tasks, and the players' age group. Even if much is known about each variable independently, the combination of those variables in one study might provide a deeper understanding of instructional process and accountability systems at different levels of youth volleyball practice. Therefore, the main purpose of this study was to examine accountability systems operating in youth volleyball training sessions and verify if they vary according to the instructional tasks and the nature of the information provided by coaches. Additionally, the comparison of these variables according to different players' age group will be achieved.

Methods

Sample

The participants of this study were 28 Portuguese volleyball coaches (seven women and twenty-one men) certified by the Portuguese Volleyball Federation (ten level 1 coaches, ten level 2 coaches and eight level 3 coaches). Fourteen coaches also had a Physical Education degree. The age of participants and their experience as volleyball coaches averaged respectively 29.14 and 7.89 years. Although not being probabilistic, the sample adds up to 60% of the teams that were participating in the age leagues of U-14s and U-18s, of the Oporto Volleyball Association for the year 2007. Coaches were divided in function of one split criteria: age groups of the teams they were coaching at the moment. In average the training sessions lasted about 112 minutes, including 16-minutes warm-up and 9-minutes cool down. The average coded time per session was 87 minutes, for 2430 minutes of observation. From the twenty-eight training sessions, one for each coach, 7460 coaches' interventions and 221 training tasks were observed.

The participation in this study was voluntary; the participants were informed of the purposes and that information collected would be kept confidential and anonymous, and that they could withdraw participation at any moment with no undesirable consequences. Written consent was signed by all participants.

Variables

Players' age group (U-14s and U-18s)
Coach's behaviour – 1. Accountability system: a) Task explicitness: outcome, situation, criteria-form, criteria-product and combination; b) Exigency type: participation/effort, quality of performance, and without exigency and c) Coach's reaction to accomplishment tasks: punishment, encouragement and no reaction. *2. Instructional approach:* a) *instructional task:* informing, refining, extending and applying tasks; b) Information nature: technique, individual tactics, team tactics, physical/rules and general instruction.

Observation tool
As no single instrument suited completely the range of questions of the study, observational categories were selected from different instruments that meet the criteria of content and construct validity. The categories deemed to apply on the coach's feedback were adapted from Instructional task (Rink, 1993); Information nature (Hastie, 1999); Task explicitness (Silverman et al., 1995); Exigency type (Hastie and Vlaisavlejevic, 1999) and Coach reaction to accomplishment tasks (Table 1).

Before pilot testing the observation tool, three experts evaluated whether the categories exhausted the respective instructional dimensions, and could be accurately classified. Each expert was given the list of categories to apply to a segment of a youth volleyball training session. The experts reported that the categories were exhaustive, and the percentage of agreement between their records reached the strong consistency score of 97.1%.

Reliability
The reliability of the observations was assured by the Cohen's Kappa coefficient since this tool takes intoaccount the agreement occurring by chance. Inter-observers and intra-observers' agreement was carried out within a 30-day interval. Three practice sessions, twenty-seven tasks (12.2%), and 1280 units of information (17.2%) of the total were analyzed for each variable, a value above the minimum (10%) described in literature (Tabachnick and Fidell, 2000). The values for the agreement of two independent observers ranged from 0.86 to 0.90 and intra-observer consistency ranged from 0.87 to 0.91. Fleiss (1981) asserts that scores greater than 0.75 indicate strong agreement.

Data Collection
Data was obtained by videotaping each coach in one standard practice session, purposefully selected from the middle of the micro cycle and taking place during the competitive phase of the season in the two groups. Following recommendations of Lacy and Darst (1985) Lacy and Goldston (1990) and Potrac et al. (2007) sessions from the middle of the week, more precisely Tuesday, Wednesday or Thursday, are likely to be less affected by the immediacy of the "next/past weekend's match", and

Table 1. Observation system of the accountability system, instructional tasks and instructional nature.

1. ACCOUNTABILITY SYSTEM
EXPLICITNESS OF TASKS
Outcome (O): information of the general goal of the task, for example, "Let's works service".
Situation (S): information of the conditions to the accomplished task with resource to necessary material, for example, "Each one with a ball from the service line".
Criteria-product - (CP) - information of the accomplished key, for example, "You should serve for areas five and one, ten times consecutives, to finish the task".
Criteria-form (CF) - information of the accomplished key to learning, for example, "In the serve two aspects will be considered: unbent position of the wrist, not allowing the wrist to flex".
Combination (CB) – Combination of more than one category.
EXIGENCY TYPE
Participation/effort (P/E) – The coaches refers general motifs for task consecution, for example, "Let's go. I want you deliver to the task to the end".
Performance quality (PQ) – The coaches refers critical components for task consecution, for example, "Jump and land in the same spot, and away from the net; put the hands on the other side of the net".
Without exigency (WE) – The coaches did not refer general motifs for task consecution either critical components for task consecution.
COACH REACTION TO UNACCOMPLISHED TASK
Punish (P) – The coach applied one punishment if athletes did not accomplish the goal, for example, "You did not accomplish the task, so you must do ten push ups".
Encouragement (E) – The coach encouraged or felicity the athletes if they accomplished the goal task, for example, "Paul that was a good service".
No reaction (NR) – The coach did not clarify the goal or did not react to the unaccomplished task.
2. INSTRUCTIONAL APPROACH
INSTRUCTIONAL TASK
Informing Tasks (I) – Provide information about the upcoming task, particularly an explanation of task requirements; introduction of a new skill; initial task in a sequence for a lesson; not a progressive intra-task move.
Extending Task (E) – Progression of the previous tasks that challenge athletes to perform in the more difficult situations; the coach changes the complexity or difficulty of an already presented task to perform in a more difficult situation.
Refining Task (R) – Involves the dimension of quality of performance; provides some specific performance focus; presentation of key performance cues to assist in skill development; are concerned with improving the quality of the performance by athletes.
Applying Task (A) – Provide athletes with opportunities to apply their skills in game or scrimmage situations; the coach focuses on how to *use* the movement rather than how to *do* the movement.
INSTRUCTIONAL NATURE
Technique (TEC) - The coach gives information about skills, for example, "Put attention to feet position and forward foot placement".
Individual tactics (IT) - The coach gives information about individual tactical decisions, for example "After reception go fast to the attack".
Team tactics (TT) - The coach gives information about collectives' actions according to principals and rules of playing, for example, "In this reception system, you should be more advanced relating to the other receiver".
Physical and rules (PHR) - The coach gives information about physical performance or rules, for example, "You must to do the service beyond the back line".
General (G) - The coach gives information with no relation to the training content, for example, "Let's go to do the task".

could provide a more representative picture of the typical practice structure and pedagogical strategies employed by coaches. The video-camera was placed in a high corner, covering all the space of practice. The coach wore a lapel wireless microphone that was connected to the video camera.

The initial and the final parts of the session dedicated to physical conditioning segments of the training sessions were not retained for analysis, because it was intended to analyse the pedagogical coach's behaviour focused on the learning of substantive contents (Siedentop, 1991). Event recording was used for data collection in this study. This procedure is a cumulative record of the number of discrete events within a specified time. The application of the system involved prior training of observation and codification. Two members of the research team were trained in the coding of coaching behaviours into appropriate categories. The training phase included discussion of the coding rules and brief tests in which

observers were to classify the coach's behaviour according to the observation tool. A formal test/retest protocol was administrated with two weeks interval with no feedback being given in the interim. No significant differences were found between the first and second tests, which assured that the coders were able to perform reliable coding with the observation tool (Potrac et al., 2007).

Data analysis

Total number of observed behaviors and percentages from each behavioral category were submitted to descriptive and inferential statistics. Since the requirements of normality and homogeneity of the variations were not verified through the Kolmogorov-Smirnov test and the Levene' test, respectively, the non-parametric statistics (U de Mann-Whitney) were applied to perform between-group comparisons. Additionally the Effect Size (ES) was used as an index that measures the magnitude of a treatment effect. Cohen (1988) and Winer et al. (1991) pro-

pose that ES values of 0.2 represent small differences; 0.5, moderate differences; and 0.8+, large differences. The correlation of Spearman was applied to verify the degree of association of the variables. For all the tests done, the level of significance was $p \leq 0.05$.

Table 2. Frequency and percentage of coaches' accountability behaviours.

Task explicitness (task presentation)		
	Frequency	**Percentage**
Outcome (O)	39	17.6%
Situation (S)	117	53.0%
Criteria-form (CF)	3	1.4%
Criteria-product (CP)	3	1.4%
Combination (CB)	59	26.6%
Total	221	100%
Exigency type		
	Tasks presentation	
Participation/effort (P/E)	17	7.7%
Performance Quality (PQ)	42	19.0%
Without exigency (WE)	162	73.3%
Total	221	100.0%
	During practice	
Participation/effort (P/E)	71	32.1%
Performance Quality (PQ)	106	48.0%
Without exigency (WE)	44	19.9%
Total	221	100.0%
Coach reaction of accomplishment tasks (during practice)		
Punish (P)	24	10.9%
Encouragement (E)	10	4.5%
No reaction (NR)	187	84.6%
Total	221	100.0%

Results

Descriptive analysis

Table 2 provides the results of accountability system applied by the coaches. Concerning the task explicitness within tasks presentation, it is verified that *situation* and *combination* were the most used, with 53% and 26.6% respectively. *Criteria-form* (1.4%) and *criteria-product* (1.4%) were seldom used if taken alone, or a few more when combined with other categories (17.6%). The combination of all categories was used only in 2.3%, and the combination of situation and outcome in 9.0%.

The *exigency type* was analysed in two different moments, in task presentation and during practice, as it can be seen in Table 2. In task presentation, coaches used less accountability demanding categories (73.3% of *without exigency*). Conversely, the demand of *performance quality* comprised near half (48%) of all accountability episodes during practice.

Table 2 shows the *coach reaction to accomplishment tasks* during practice. As it can be seen, in 10.9% the coaches *punished* the athletes because they did not do what was expected. In most cases coaches showed no reaction (84.6%).

Taking into account the instructional task, 81% of the information provided in task presentation, consisted of *informing* and *extending* tasks (47.1% and 3.9%, respectively). The remaining categories of *applying* and *refining* tasks made up the other 19% (13.1% and 5.9%, respect-

tively) (Table 3).

In relation to the nature of information, Table 3 shows, that *technical* instruction (T) was largely used in the coach's interventions (43%). However, *general* instruction (G) presents also a high value (34.3%). In tactical instruction, coaches use more *individual* information (IT) than *team* information (TT) (15.2% and 6.3% respectively).

Table 3. Frequency and percentage of coaches' instructional behaviours.

Instructional tasks (task presentation)		
	Frequency	**Percentage**
Informing Tasks (IT)	104	47,1%
Refining Tasks (RT)	13	5,9%
Extending Tasks (ET)	75	33,9%
Applying Tasks (AT)	29	13,1%
Total	221	100,0%
Information nature (during practice)		
	Frequency	**Percentage**
Technique (T)	3207	43%
Individual Tactics (IT)	1137	15,2%
Team Tactics (TT)	468	6,3%
Physical/Rules (P/R)	86	1,2%
General (G)	2562	34,3%
Total	7460	100,0%

Correlation analysis

In what concern to the relationships between the categories of *accountability system* and of *instructional tasks* or nature of *information* some correlations were established. On task explicitness, *situation* showed a moderate and positive correlation with *extending* and *applying tasks* (r = 0.538; p = 0.003 and r = 0.411; p = 0.030, respectively).

In both moments, at task presentation and during practice correlations were found between categories of *exigency type* dimension and of instructional tasks. The *without exigency* category, in task presentation, presented moderate and positive correlation with *extending tasks* (r = 0.440; p = 0.019). On the other side, *performance quality,* during practice, presented moderate and positive correlation with *extending tasks* (r = 0.445; p = 0.018). Taking into account the *coach reaction to accomplishment tasks* it was verified moderate and positive correlation between *no reaction* and *extending tasks* (r = 0.577; p = 0.001).

Task explicitness did not show any correlation with the *nature of information*. Although, *exigency type* during practice showed a positive correlation with *technical* instruction, being moderate and positive on the *quality of performance* (r = 0.419; p = 0.027) and moderated and negative on *without exigency* (r = -0.418; p = 0.027).

Finally, it was still found correlations between *coach reaction to unaccomplished tasks* and the *nature of information*. *Encouragement* correlated moderately and negatively with *individual tactics* and *team tactics* (r = -0.486; p = 0.009 and r = -0.425; p = 0.024 respectively).

Comparative analysis according to players' age group

From the comparative analysis of *task explicitness* in function of age groups (Table 4), it was verified differ-

ence with significant value in *situation (S),* and *criteria-product (CP) categories,* where the coaches from U-18 teams presented higher values in both categories (Mann-Whitney U = 55.000; p = 0.046; ES = 0.34 and Mann-Whitney U = 53.000; p = 0.027; ES = 0.41 respectively), and in category *combination (CB),* where the coaches from U-14 teams presented higher values (Mann-Whitney U = 56.000; p = 0.007; ES = 0.41).

Table 4. Comparison of coaches' accountability behaviours by players' age group.

Task explicitness (task presentation)		
	Under 14 (n=14)	Under 18 (n=14)
Outcome (O)	13.96	15.04
Situation (S)	11.43	17.57
Criteria-form (CF)	15.61	13.39
Criteria-product (CP)	11.29	17.71*
Combination (CB)	17.50	11.50**
Exigency type		
Tasks presentation		
Participation/effort (P/E)	16.86	12.14
Performance Quality (PQ)	15.93	13.07
Without exigency (WE)	13.14	15.86
During practice		
Participation/effort (P/E)	14.86	14.14
Performance Quality (PQ)	17.21	11.79
Without exigency (WE)	10.50	18.50**
Coach reaction of accomplishment tasks (during practice)		
Punish (P)	13.54	15.46
Encouragement (E)	16.50	12.50*
No reaction (NR)	13.07	15.93

* p < 0.05, ** p < 0.01.

The analysis of *exigency type* dimension in both different moments (task presentation and during practice) in function of players' age group made apparent significant differences between coaches' groups during practice, where coaches' U-18 used less demanding levels of accountability (Mann-Whitney U = 42.000; p = 0.007; ES = 0.45) (Table 4).

In relation to *coach reaction to accomplishment tasks* during practice, *encouragement* was more frequently used by coaches of U-14 teams in relation to of U-18 (Mann-Whitney U = 70.000; p = 0.034; ES = 0.35).

Table 5. Comparison of coaches' instructional behaviours by players' age group.

Instructional Tasks (task presentation)		
	Under 14 (n=14)	Under 18 (n=14)
Informing Tasks (IT)	16.18	12.82
Refining Tasks (RT)	13.93	15.07
Extending Tasks (ET)	13.29	15.71
Applying Tasks (AT)	13.93	15.07
Information nature (during tasks)		
Technique (T)	18.39	10.61*
Individual Tactics (IT)	13.89	15.22
Team Tactics (TT)	15.43	13.47
Physical/Rules (P/R)	14.04	14.96
General (G)	13.82	15.18

* p < 0.012

The comparative analysis of *instructional tasks* according to age groups in task presentation moment, did

not reveal any difference in the categories belong to that dimension (Table 5).

Concerning the *nature of information* there was only difference in *technical* instruction, with coaches of the U-14 group presenting significantly higher values (Mann-Whitney U = 43.500; p = 0.012).

Discussion

Accountability system

Referring to task explicitness the coaches' under study showed an implicit and generalist profile when they transmit information in task presentation. This could be confirmed by the emphasis on *situation* (53%) in task explicitness. These results are comparable to those of Supaporn et al. (2003), a study applied in a middle school physical education department, in which the authors verified that teachers use vague and incomplete instructional tasks, and that teachers' statements were usually implicit. Similarly, studying a gymnastic training setting, Rosado et al. (2008) verified that the *outcome* was the most used component of task explicitness, followed by *situation*, which confirms the tendency of coaches in young training setting to provide general information during task presentation. Moreover, the combinations that integrated outcome and performance (*criteria-product* and *criteria-form*, respectively) were used only in 17.6% of cases. A similar result was found by Mesquita et al. (2008) in a youth soccer training setting where the information assumed an implicit profile and the use of combinations of *criteria-product* and *criteria-form* was substantially low. Doyle and Carter (1984) suggested that task ambiguity is a factor in task completion, and so it might be expected that effective teachers or coaches would increase the higher level combinations to make tasks more explicit. As Silverman et al. (1995) argues, when task ambiguity is reduced by using great explicitness, task completion and adherence increases and, consequently, students receive more practice and learning is likely to increase.

Nonetheless, at different levels of practice players will have a different understanding of the task goals (Hodges and Franks, 2002; Magill, 2000), and thus it will request different explicitness. This study showed that *U-14* coaches were more predisposed to provide more detailed explanations to clarify the tasks at hand (used more combinations). Contrarily, *U-18* coaches stressed more on criteria-product possibly because at this skill level coaches can often overlook skill form and focus chiefly on skill result.

In exigency type, the highest value was on *no exigency* in task presentation (73.3%), though, during practice, accountability was based mainly on the degree of quality of performance (48%). The incongruence with the exigency type set in task presentation and during task observed in our study could be explained because the tasks are continually changing as both players and coaches, are continuously making appropriate adjustments and modifications in response to each other (Jones, 1992). Instructional-task modifications and negotiations seemed to be influenced by the instructional format and the learners' skill level and take place when learners change the

stated task to meet their own abilities and/or interests without asking (Jones, 1992). This is probably increased when coaches did not put any kind of exigency in tasks presentation. In fact, since accountability for performance of instructional tasks was loose and mostly implicit, learners could "act out" often in many ways, and follow their social agendas with peers or think that any practice is acceptable within the reward structure (Doyle, 1983). Considering the age groups, coaches presented a similar profile. Indeed, even in the oldest age group (*U-18),* coaches did not put significantly more of any kind of exigency to accomplish the task during practice, probably, because players are familiarized and see these tasks as routine. However, instructional task modifications occur frequently when learners are not held accountable for task completion (Silverman et al., 1995) which is the case when coaches do not communicate any kind of exigency.

The present study demonstrated that coaches largely fail to monitor players' task accomplishment, as the main reaction was *no reaction* at all (84.6%). This general pattern is difficult to explain as it is at odds with coaches' concern for technical information conveyed during practice, but it reflected the high rates of general information observed among coaches' instruction. As Tinning and Siedentop (1985) argue the application of contrived consequences depends on some form of monitoring and supervising provided by coaches during practice. Indeed, supervisor monitoring was a fundamental part of the accountability system, insofar as to be accountable to a person, implies to please this person by providing the type of response that is presumed to satisfy that person (Roch and MacNall, 2007). In contrast, if athletes are not held accountable, they will tend to complete tasks at a less than optimal level (Doyle, 1983).

Moreover, coaches from this study reacted to players' *task unaccomplishment* almost two times higher with punishment than with encouragement. This affective behaviour profile is substantially different from British top-level soccer coaches (Potrac et al., 2002; 2007) who benefit substantially from the use of encouragement. Black and Weiss (1992) suggest that effective coaches try to cultivate a more positive environment for their players than less effective counterparts. In order to create a positive learning atmosphere for their athletes, it is crucial that coaches cultivate positive rather than negative interactions (Lacy and Darst, 1985; Potrac et al., 2007).

Compared to *U-18* coaches, *U-14* coaches applied significantly more encouragement, which corresponds to the motivational needs of young players, as they are still in the initial stages of development. As Roch and MacNall (2007) argue motivation is a drive to do something and may form the basis for feelings of accountability. Jones (1992) added that explicitness of task statements, appropriate coach supervision and players' motivation to practice are factors that can contribute to higher task accomplishment.

Instructional approach

Regarding instructional task, coaches were heavily reliant on informing and extending tasks and often failed to use applying and refining tasks. In a general way our results replicate Son (1989) and Jones' (1992) studies applied to physical education classes. In those studies, teachers make preferential use of informing tasks, followed by extending, applying, and finally with little use of refining tasks. Physical education teachers with a higher level of expertise were seen to apply more extending tasks (Hastie and Vlaisavljevic, 1999). Also in this study coaches who were not expert gave great importance to these type of tasks. Indeed, extension tasks require to either reduce or increase the complexity and difficulty of the content, and to sequence experiences in progressive order (Rink, 1993, 1996); such tasks are designed to provide players opportunities for working at an appropriate level of difficulty (Mesquita et al., 2008). Oddly coaches made little use of refining tasks which are particularly important in the improvement of performance quality (Hastie and Vlaisavljevic, 1999). Some studies (Pellet and Harrison, 1995; Rikard, 1992) put in evidence the power of refining tasks in the learning achievement mainly in the earlier stages of learning. However even *U-14* coaches did not use refining tasks more often than *U-18*coaches, making an apparent similar profile in both groups.

Technical information presented the highest values (43%) followed by *general instruction* (34.3%). The prevalence of technical information combined with informing tasks seems to reflect a molecular approach, focused on practicing fundamental skills. Moreover coaches from *U-14* group conveyed significantly more *technical information* than their *U-18* counterparts. Even if the specificity of the Volleyball game demands a minimum of technical competence in order to play, the instructional focus on molecular approach in the early stages of learning (Mesquita et al., 2005) does not encourage the development of tactical decision-making (Bianco, 2006).

Relationship between accountability system and instructional approach

Extension tasks were the instructional tasks more related with the accountability system and the nature of information. However, the correlations verified with the variable *without exigency* in task presentation and with *quality of performance* during practice orient, once more, to the lack of explicitness in task presentation mitigated by some concern on correct execution during practice. Additionally, both extending and applying tasks showed correlation with *situation*, in relation to task explicitness, which could represent a generalist and superficial coach's profile, even when manipulation of the task difficulty is required (Rink, 1993). Once the players begin the task without knowing what the coach specifically wants, it is probable that they solve ambiguity according to their interests and change the main goal of the task. Moreover, even if extension tasks demand specified criteria of performance and a close monitoring, coaches usually adopted an inconsequential position of no reaction towards task being unaccomplished. The lack of accountability criteria and the failure to monitor task accomplishment apparent in the present study could only be speculated. They may reflect either a lack of detailed knowledge about volleyball contents, inadequate instructional competence, or even beliefs about how to coach and how players learn. Further research needs to address issues of coaches'

knowledge and conceptions related to volleyball instruct-tion.

Concerning the relationship between the nature of information and the accountability system, it was found that technical content information established a positive correlation with *performance quality* and a negative correlation with *without exigency*. In addition, the moderate and negative correlation between tactical information and encouragement suggests a concern by coaches in encouraging athletes, preferentially when the nature of information is technical. Once again, these findings highlight a coach's instructional profile orientated to a molecular approach where the coach not only gives more attention to technical content but also supports learning process related to this content with more specific information and encouragement. In general, the relationships between the instructional variables and the accountability system variables were merely of moderate level, which suggests the interest of considering other pedagogical variables in further research in order to get a more comprehensive view of the complexity of the youth coaches' instructional process.

Conclusion

The accountability system is irrefutably essential to the learning process in physical education and sport settings, requiring the monitoring of what athletes are asked to do, how the tasks are being performed and accomplished. From the analysis of the accountability systems of youth volleyball coaches some preliminary conclusions can be drawn. The coach dominant profile was mainly devoid of accountability criteria in task presentation, excepting for references to situation, put together with no reaction to-wards unaccomplished tasks. Only during practice, coaches remark the performance quality, followed by participation/effort. These results indicate the presence of weak and ambiguous accountability systems, also corroborated by positive correlations of extending tasks with the category *without exigency* in task presentation as well as with *no reaction* to unaccomplished tasks. The instructional approach was predominantly composed of informing tasks, of technical nature and general information, which can reflect a technique and generalist coach profile.

There were no notorious differences in accountability behaviours between player's age group. Minor differences were found in task explicitness. U-18 Coaches used significantly more situation and criteria-product but did not hold their athletes accountable during practice. U-14 coaches used more task explicitness combinations, encouraged more their athletes and conveyed more technical instructions.

In future research it will be appropriate to attend to the ecological nature of the coaching process, which could render a deeper analysis of coaching behaviours. It is also desirable that future research should include complementary qualitative analysis of underlying beliefs, knowledge, and reasons for coaches' behaviours in particular coaching settings, so as to obtain a more thorough understanding of the coaching process.

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Key points

- Accountability systems implemented by coaches were mainly implicit and governed by opportunity rather than explicit performance criteria imparted in task presentation. Only during practice, coaches remark the performance quality, followed by participation/effort.
- The instructional approach was predominantly composed of informing tasks, of technical nature and general information, which can reflect a technique and generalist coach profile.
- In general, coaches did not differentiate accountability behaviours according to the players' age group.

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