Developing creative team games players: From jazz to sport coaching

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Abstract

Traditional coaching methods position coaches at the centre of the learning process and do not encourage players to think creatively. This study challenged this assertion, through the application of pedagogical principles reported in jazz-related literature, which argue that creativity is best developed through collaboration. As such, the study aimed to develop players' creativity, through the application of pedagogical principles reported in jazz-related literature. An action research design was implemented, during a 14 weeks period, with a youth volleyball squad. Results demonstrated an impact upon match play; players showed their enhanced appreciation of the game's complexity, by experimenting, collaborating, and generating creative solutions to challenges emerging within matches. In addition, the implementation of collaborative practices positively impacted upon the players' communication habits, which were both more frequent and effective. Although players demonstrated a similar *modus operandi* to jazz musicians, this study represents the first step in what coaches can learn from jazz creativity, and therefore further research is required to corroborate or challenge the results attained.

Keywords:

Collaborative creativity, coaching, improvisation, athlete learning

Introduction

Within traditional sporting contexts, coaches often assume the lead role in decision-making, rather than encouraging players to be creative and develop their independent thinking.[1] This, arguably, inhibits players' capacity for personal development and their ability to respond creatively within competitive situations. In contrast, jazz ensembles encourage creative endeavours, which are framed as a collaborative, socially situated and collective process.[2,3] Such creative actions are associated with novelty,[4,5] and produced as a result of interactions between the participants and the challenges raised during learning opportunities.[6]

Creativity often emerges from improvisation[3] rooted in the interactions between the members of a musical ensemble.[7] Indeed, jazz musicians have been found to engage in a type of 'conversational exchange' in improvised activities.[8] Instead of starting a completely new idea, each musician continues in the mood established by the previous player, elaborating upon the preceding idea in their musical exchanges, borrowing from the previous sentence and then building upon it.[7] Similarly, within team sports, there is the potential for one player to initiate a creative play and other players to 'play off it'. This paper will therefore delve into some key principles and practical ideas from the jazz domain, to inform coaches' practice and this way developing a culture of collaborative creativity in team sports.

Each performance area, jazz or team sports included, has its own unique rules, conventions, norms, values and traditions, which are culturally and historically situated. Jazz has a strong culture of encouragning creativity and improvistation whereas, most team sports often do not. Csikszentmihalyi's[9] system's model of 'situated creativity' views creativity as lying within the socio-cultural relationships between the Bourdieuan concepts

of ‘domain’, ‘field’ and ‘person’. According to this model, rules and conventions are required within the ‘domain’ (e.g., jazz music or team sports) for creativity to occur; a ‘field’ of experts (e.g., peers, coaches, spectators) validate the creativity; and the ‘person’ (e.g., musician or sports performer) is required to bring something to the ‘domain’ and ‘field’ that is creative and novel.[9] The established learning environment is therefore a key consideration in accepting and developing creativity.

Although there is no definite agreement around the conceptualisation of creativity, it is commonly defined as an original and appropriate behaviour[10]. This assertion is critical within a sporting environment, due to the quest for optimum performance and the pressure to attain positive results, justifying the inclusion of appropriateness as a defining criterion. Indeed, creativity in sport depends not only on novelty, but also in successfully creating opportunities to out manoeuvre the opposition, gaining tactical and strategical advantage over them. Such cultural differences are important to keep in mind, but should not be seen as a limitation when considering the potential to transfer key principles of collaborative creativity from jazz to sport.

Kenny’s[3] study of a jazz ensemble revealed that the musicians’ sense of camaraderie and encouragement to be more creative was facilitated by the jazz tutor, acting as a creativity ‘connoisseur’, resonating with Vygotsky’s concept of a “more knowledgeable other”.[12] This way a culture of improvisation, whilst maintaining challenge, and building knowledge through leadership and collaboration was identified. These key principles of collaborative creativity are aligned with Sawyer’s[2,5,7,11] work, in which developing creativity is achieved in a group situation, in opposition to individual or isolated practice. Hence, there is an agreement[3,7] that a culture of creativity needs to be developed for group creativity to occur. Kenny[3] reported a sense of ‘being in it together’ in which the jazz tutors have a critical

role, by strongly encouraging creativity during the practice sessions. Indeed, as asserted by Sawyer[2,7], collaborative creativity within jazz was expected, based on mutual understanding and participation, whilst creativity was evidenced through improvisation. Some of the musicians, particularly those from different musical backgrounds (e.g., folk), found this both exhilarating and frightening, corroborating the peculiar culture of creativity within jazz ensembles. This type of creativity and improvisation was practiced within the group and facilitated by the tutor through musicians being challenged to leave their 'comfort zone' and 'move beyond' playing what was obvious and unchallenging[3]. Challenge had a strong association with creativity and a heavy workload was viewed as necessary to achieve creativity in performance. Within a coaching environment, it can therefore be argued, that coaches play a central role in developing creativity whilst maintaining personal challenge.

As authors, we believe that a culture of creativity in sports does not just happen by chance, it must be practiced deliberately, making it a priority through embedding it into the players' language and interactions. Hence, it must be experienced regularly and progressively in training sessions before it can occur in games. Such an approach is consistent with, but extends well beyond, promoting a mastery motivational climate that emphasises individual challenge, self-referenced personal development, and cooperative groups.[13]

Importantly, both jazz musicians and sport performers do not know how successful a spontaneous performance is going to be until it starts[7]. This phenomenon, resulting from individual contributions was described by Sawyer[2,7] as an intrinsic part of the collaborative creativity process and coined as 'emergence'. The concept of emergence resonates with team sports' performance, reflecting Seddon's[14] concept of 'empathetic attunement', where improvisers go beyond supporting their fellow players, stimulating new ideas. When

empathetically attuned, musicians take creative risks, resulting in spontaneous musical dialogues. Seddon's[14] theorisation of modes of communication employed by jazz musicians refers to musicians' ability to carefully listen to each other, whilst being particularly aware of rhythmical ideas of other band members.[14] These ideas strongly resonate with the interactions observable in a team sport, in which most micro interactions will impact upon the participants' subsequent actions.[14] The sporting equivalent may therefore be to observe (and listen) to teammates and become aware of their styles of play to creatively support and react to their actions.

Seddon[14] also theorised other forms of non-verbal communication, such as 'sympathetic attunement', in which non-verbal cues, gestures and body language are the means through which musicians communicate to enhance their collective performance. He further described verbal forms of communication; such as instruction, in which musicians are told what to play; verbal collaboration, in which musicians discuss and evaluate their act following the musical performance and, finally; verbal cooperation, that refers to the discussion and planning of the musical piece before the performance. Similarly, Sawyer[11] distinguished between 'compositional creativity', which involves a long period of creative work leading up to a creative product and 'improvisational creativity', where the creative process and product are co-occurring. These concepts resonate with Gréhaigne, Godbout and Bouthier's[15] definitions of strategy in team sports; as a pre-defined team organization (compositional creativity), and tactics as a punctual adaptation to the opponents' configuration (improvisational creativity).

It has been vastly documented that some of the most famous jazz improvisers rely on a large pool of motifs.[16] Motifs in jazz are stocks of music that can be recycled in a wide range of musical contexts, each of them containing four to ten musical notes.[16] Hence,

'motifs' have an umbilical relationship with the improvisational process. However, 'motifs' represent a basic level of improvisation. For the musical composition to be logical and coherent, jazz musicians and improvisational groups operate based on structures, such as scripts or schemas, which will guide the improvisation.[16] Similarly, when improvising during a game, players are required to fit their technical and tactical actions within an existing strategic framework. Therefore, motifs can be translated to the sport coaching field as tactical or strategical[15] actions employed by the athletes to face the anticipated and emerging challenges raised by the opposition.

Based on the reviewed literature, the authors of the current paper contend that creativity and improvisation are not just naturally occurring, innate personal qualities, but skills that can be practiced and developed. Furthermore, the realm of jazz music strongly contends that these practices, and the overall culture of the learning environment, need to focus on collaborative group activities, rather than individual moments of creative 'brilliance'. Creativity is, therefore, framed as a collaborative, social and collective endeavour. [7]

To the best of the authors' knowledge, this is the first article to use jazz concepts of collaborative creativity in a sporting context. The aim of this study was to improve players' creativity in volleyball through the implementation of the principles of collaborative creativity in jazz. The specific objectives were to:

- critically analyse the use of collaborative creativity as a means to enhance the sport players' strategic and tactical knowledge;
- focus upon the role of 'motifs' in the creative process within a sport coaching environment;

- understand the similarities between the types of communication employed by jazz musicians and sport players within the creative process.

Methods

Participants and ethics

The sample comprised of a group of seven female volleyball players, aged between 10 and 14 years old, with the majority of the players being 14 years old. This group was sampled due to its accessibility to the first author, who combined the roles of both coach and researcher. This was, therefore, considered to be first person Action Research (AR),[17] where the coach developed an inquiring approach to his own coaching practice, aimed at evolving and transforming his coaching practice. The volleyball players had varying levels of experience and the majority had been coached by the first author for the last four seasons. At the outset of the study, the researcher had 12 years of experience as a volleyball coach, coaching both male and female squads, from introductory levels to adult performance-led squads.

The study was approved by the University's ethics committee: participants were given a detailed information sheet outlining the study's objectives and giving them the opportunity not to participate in the data collection phases of the study. Consent forms were collected from the participants' guardians and assent forms from the participants themselves. Anonymity was assured through the use of pseudonyms.

Action research approach

This study used jazz concepts of collaborative creativity to challenge the dominant culture rooted amongst sport coaches and to promote a transformation in coaching practice. As such, an AR design was considered most appropriate, as described and justified in the following paragraphs.

Anti-mainstream, creative endeavours tend to be shut-down due to their ground-breaking nature.[18] This emerges from societal pressures for individual's actions to conform with normative behaviours.[19,20] However, an AR design has got the structure and potential to emancipate the individuals from the prevailing, yet somewhat inhibiting socio-cultural pressures.[21] Indeed, to promote transformation of practice, Kemmis and McTaggart[22] argue that an understanding of practice is necessary, accompanied by an in-depth comprehension of the social and historical context in which the practice occurs. This argument arises from the fact that any given activity is rooted within the interactions between the individuals in the field.[22] Consequently, transforming practice constitutes a socially rooted process, whose first step is initiated by transforming the social relationships in the field.[22]

AR represents an opportunity to question what is happening in the situation and how practice can be enhanced.[24] McNiff[17] refers to AR as a form of inquiry to evaluate one's own practice, identify areas for improvement and set an action plan which addresses the highlighted areas. Traditionally, the reflective opportunities offered by an AR design are based on reflection cycles.[24] Accordingly, Kemmis and McTaggart[22] described the process as a spiral of intertwined cycles, in which each cycle includes: planning a change, applying and observing the plan, leading towards a modification within the environment, followed by a reflection upon the process and outcomes of the plan, and the restart of a new cycle based on the previous one. However, the researcher should reinvent this structure according to the project's specificity.[17,25] In fact, from the modifications implemented within the environment, context specific reactions from the participants will emerge[25], which will affect the unfolding of each cycle and the evolution of the research.

The role of critical friends in AR

The educational nature of AR[22] highlights the role of collaboration and cooperation in the unfolding of each cycle. Therefore, a crucial component to the process is the interaction and idea sharing with others, named as critical friends (or critical colleagues)[17]. Bi-weekly meetings were held with the critical friends; an experienced action researcher, and a fellow doctoral student. Their role was to provide constructive critique, feedback and support for the researcher in the reflection process. Indeed, the importance of their role was accentuated by their thorough insight of the research context, understanding of the research field and the micro-political dynamics[17] in sport coaching. In brief, the critical colleagues assumed a crucial role, supporting the researcher to achieve a critical perspective, challenging the researcher's personal assumptions and consequently, having an impact upon the unfolding of each research cycle. Written reflections documented the main topics discussed and conclusions drawn from the meetings.

Data collection methods

Consistent with McNiff's[17] guidelines on how best to gather rich, 'thick' data for AR, data was collected from two different sources: Focus Groups (FGs) with the players, and the coach's reflective log. The data collection period lasted 14 weeks and was interrupted for three weeks, at week eight, by the Easter vacation during which there was a break in training and games. Data was collected once per week and each training session lasted two hours.

Focus groups

Aligned with the transformative and evolving nature of AR[26], player FGs were conducted during week eight and in week 14, at the end of the first and second research cycles. The aim of the FGs was to evaluate the impact of the AR intervention on the players' creative thinking. This way, the conversations within each FG critically evaluated the coaching procedures implemented and consequently informed the subsequent research

cycle. Semi-structured focus groups[28] were conducted, allowing the participants to drive the content of the conversation in order to access as much information as possible, leading to greater depth in the discussions and consequently allowing for deeper and richer data to be accessed[29].

Reflective log

A reflective log was used to keep a record of the events, describing the evolution of the interventions and to write personal commentaries.[23] Each log entry provided detailed descriptions, functioning as a recording of past events and most importantly, as a reminder for future action.[22] This way, the recorded events contributed to the development and unfolding of the subsequent cycle. The entries also reflected the lead researcher's personal feelings and frustrations regarding the overall process; the everyday constrictions and challenges present in the coaching environment, such as players' engagement and attendance or external setbacks (such as the venue availability) which impacted upon the study's outset.

The AR intervention

During the first research cycle, the focus was on implementing a collaborative, creativity-centred environment. This intervention clashed with the baseline coaching practices where the problem-solving tasks frequently had a unique, optimal solution which promoted convergent[30], as opposed to divergent, and creative thinking. Here, consistent with Kenny's[3] principle of 'privileging creativity', the players were challenged by the coach to collaboratively develop creative outcomes within a range of generic volleyball games and activities. This seemed a logical first step, to replicate some of the key principles of creativity described by Kenny[3], since fostering a creativity driven environment was deemed fundamental for creative behaviours to occur. Although this initial cycle was considered

critical to embed a creative mindset within the team's language and actions, the exaggerated focus on creativity led to a shift away from the study's objective of utilising creative thinking as a means to enhance the players' strategic and tactical knowledge.

Following the first cycle, the players were challenged to construct creative and novel actions, within modified games or game-related scenarios, focused on enhancing their strategical and tactical knowledge. Indeed, privileging creativity brought to the forefront the emerging nature of creativity[2,7]. This way the coach's practice was in line with Kenny's[3] key principle of maintaining challenge and building knowledge through creativity's collaborative nature. For instance; athletes were often suggested to 'do the opposite of what they usually do' or 'do the opposite of what their opposition is expecting they will do'. The players were also motivated to collectively construct their responses, leading to additional time allocated for the athletes to discuss their offensive strategies.

Furthermore, aligned with the aforementioned privileging of creativity[3] and Seddon's[15] idea that inspirational tales of well-known jazz musicians should be shared with performers, throughout the second cycle, short clips of volleyball games containing what was deemed as 'creative plays', were shown to the players as a source of inspiration. These were interpreted with the support of the coach, so that the players could understand how to apply the observed actions and strategies in their own play, instead of simply mimicking the observed actions. In parallel, technically focused practices were delivered, to enhance the players' known 'motifs', as defined in the paper's introduction. The objective was to enlarge the range of possible technical and tactical options they could 'draw upon' and apply when facing game-related scenarios, with the objective of outsmarting the opposition and enhancing strategical knowledge through collaboration[4]. Additionally, to develop the players' ability to adapt their pre-set tactics, game related scenarios were modified forcing

them to adapt their initially set tactic and apply a 'motif' coherent to the emergent changes in the game. However, the players' range of creative actions was constricted by a wide range of factors, such as their limited technical skills, inexperience, physical constrictions (e.g., height) or even the reduced number of participants in each training session. All these factors were the target of careful consideration and reflection, which shifted the study towards a more careful focus on the creation and application of creative strategies[15] within the third cycle.

Throughout the third and final cycle, emphasis was given to the emergent improvisational process and 'in-the-moment' creative actions.[2,4,7] Therefore, the focus was mainly on the use of small sided-games and game-like scenarios, to enhance the players' ability to adapt their pre-set strategy and to generate creative and emergent solutions to the issues raised within the game. These improvised decisions were individually or collectively discussed with the players, deconstructing their tactical decisions to enhance their tactical understanding. Hence, the main objective of the third research cycle was to enhance the players' ability to improvise and demonstrate more frequent manifestations of empathetic attunement[14].

Data Analysis

Different sources of data were used to understand the studied phenomenon, increasing the researcher's confidence on the data collected[31], to attain the study's aim and objectives. Consequently, data emerged from the commonalities traced between the FGs and reflective log.

Considering that qualitative data is usually analysed in the form of words and written text[29], the FGs and reflective logs were fully transcribed to allow a thematic analysis. The procedures suggested by Gratton and Jones[31] were followed to allow a systematic data

analysis. The first step consisted of a careful organisation of the data, to permit data to be coded and analysed. This was an ongoing process during the research process, to order and reduce the mass of data collected. The second step consisted of a re-organisation and display of the data collected, to facilitate the drawing of conclusions. The third verification step finalised the conclusions by cross-referencing the field notes and FG transcripts in an attempt to validate some of the conclusions drawn throughout the data collection process.

Focus group data were initially analysed deductively[27], according to the themes presented in the literature (as described in the paper's introduction). Since the FGs were structured to evaluate the procedures implemented during each cycle, the codes utilised mirrored the same body of literature presented in the introduction. In fact, data was re-read, scanning for statements that might fit into the deductive categories and to also provide the opportunity for further codes to be generated[28].

When analysing the reflective log entries, room was given for new categories to emerge, to accurately reflect the phenomenon being studied.[28] Therefore, an inductive analysis was initially employed. However, as concepts and working propositions began to emerge from the data, the analysis shifted towards a deductive reasoning, to make sense of the emerging concepts in light of the theory[27].

Results and Discussion

The following section will present the study's results and discuss the implications for coaches and players. Here, the findings will be thematically presented and their emergence throughout the research cycles explained. Every name used throughout this section is a pseudonym.

Creativity as a tool to develop strategic and tactical knowledge

The initial emphasis on 'privileging creativity[3]' employed during cycle 1 was critical to embed a creative mindset in the players. Indeed, the participants acknowledged during the first FG the importance of creative ideas on court: *"To surprise the opponents by using different strategies"* (Daisy, FG1); "*You are more likely to score if you vary your actions"* (Hellen, FG1). This demonstrated an awareness that creativity 'as an end in its self' is not enough; it should also be appropriate to the context in which it is being expressed[10].

This state of mind fuelled the players' ability to implement creative actions, which were subsequently utilised as a tool to improve technical and strategical knowledge.[15] Hence, the learning curve was accentuated throughout the second and third cycles of the study. When questioned about their learning, during the second FG, Sarah replied "*I've learned that attacking is not only to look for the gaps but to outsmart their defensive and blocking organisation".* Thus, through the conception of creative solutions in game-like scenarios and game situations, the players comprehended the impact of their individual and collective creative endeavours upon the game.

Hence, throughout the study, the players demonstrated an increased awareness of the impact of their actions upon problems raised in training, revealing an improved tactical and strategical[15] knowledge throughout the study. Accordingly, the first quote was extracted from the first FG, conducted during week eight, in which the player expressed the team's perspective on this particular subject. The second quote, examines the lead researcher's reflections on an interaction with the same player during the last training session, in week 14.

> *I base my decisions about where to 'set' on where the blocker is, if I can see them, and also depending on the hitter and if they can play a quick ball.*
>
> (Olivia, FG 1)

*When asked about sorting a plan that was compromised by the quality of the first touch, she [*Olivia*] said that "when the 1st touch is not good we're closing zones." It's interesting for me that she analyses the game this way, by thinking about the number of solutions possible according to the game's contingencies.*

(Reflective log, Training session n.14)

As the first quote establishes, the player had demonstrated a more analytical comprehension of the game, as she focused on particular aspects of the game. She was able to deconstruct the game into smaller parts, such as "where the blocker is" to determine what the next step should be. Therefore, her decision making was founded on a somewhat analytical process. However, the analysis of the second quote reveals a raised awareness of the game's complexity. In fact, she conceptualised the game as a whole, as opposed to deconstructing the game into smaller parts, demonstrating a comprehension of the game according to the consequences of one action over the subsequent, which constitutes an evolution of her tactical and strategical knowledge[15]. As the players' awareness about the range of factors impacting over their decision making increased, they were then better equipped to apply creative actions which were both reasonable, sensible and suitable for the context.[6]

Improvisation and the emerging characteristics of the game

Resonating with Sawyer's[2,7] concept of 'emergence', the FGs and coach's reflections echoed the players' increased understanding of the emergent contingencies presented by the game. The quotes below illustrate the athletes' increased awareness of a wider range of aspects within the game. The first quote refers to a rule applied in a game scenario, which obliged the players to focus on each other's offensive actions. The rule consisted of prohibiting the

players to attack by applying the same technical skill used in the previous attack of their own team. Consistent with Cropley's[10] argument that creativity should be both novel and appropriate, the objective was to oblige the players to resort to novel, but also effective strategies. Although novel and creative actions were observable, some were not reasonable or appropriate to the context, as Eteläpelto and Lahti[6] consider essential.

> *Since the participants were not allowed to attack employing the previously used skill, creativity emerged from their observations of each other's performance. Through this strategy, the players were taking ideas from each other, regarding the technical actions that could be executed. However, they were not all related to the game's features.*
>
> (Reflective Log, training session n.3)

Data from the second FG demonstrated the players' enhanced comprehension of the game, due to an increased awareness of the number of variables to be considered within the game. As the quote reveals, the player was better equipped to interpret the environment and better improvise a solution, when facing the constrictions emerging from the game:

> *We base it* [the decision-making process] *on the circumstances of the pass, the set, and then we just continue from there. If the set is wide, then we know to adapt and move, we know which direction to hit, we know what would be a better option.*
>
> (Hellen, FG 2)

> *"I know what I can do; it all depends on everything that's happening"*
>
> (Hellen, FG2)

The role of motifs in the improvisation process

Sawyer[16] defined motifs as stocks of music that can be recycled in jazz improvisation. Within the study, motifs were interpreted as technical (pre-composed)[11], tactical[15] (improvised)[11] or, strategical[15] knowledge. Thus, a technical motif was considered a hit 'down the line'(1) or a 'tip'(2), but could also be a tactic, such as a pre-planned quick attack behind the setter, or an in-the-moment improvised strategy such as a backcourt attack(3). Such a broad translation of the concept into the coaching field led to the frequent emergence of motifs within the training sessions, as illustrated by the following quote: "*The strategies used weren't novel; they reflected their* [the players] *past knowledge on what would work in this type of game.*" (Reflective Log, Training session n.6).

These sorts of observations were commonly reported in the reflective logs, especially during the second and third cycles. As the players were resorting to strategies (i.e., pre-planned) and tactics (i.e., improvised) previously utilised to structure or improvise their attack, the focus throughout the study's second cycle aimed to enrich their range of technical motifs. The objective here was to enlarge the pool of possible options that players could resort to, when challenged by game-related scenarios. This was done not only through the delivery of technically focused drills, but also by showing examples of novel and creative actions to the players, mimicking jazz tutors' actions, as reported by Kenny.[3] This contributed to enhancing the pool of motifs that they could employ, as the following quotes shows: "*You have a list* [of technical skills] *in your head*" (Sarah, FG 1), and: "*In previous matches you've scored a point because you've caught them off guard with the fast ball, that's what you tend to go to*" (Abigail, FG 2).

(1) Hit parallel to the side-line.
(2) Slow hit, usually landing on the empty spaces, away from the defenders.
(3) Any attack from the defensive zones (1, 6 and 5).

The above statements support the importance of motifs during the creative process. In the first instance, the player referred to technical actions used as a pre-set collection of strategies to decide which action to choose. Whilst the musicians decide how to improvise under the umbrella of a musical framework[16], collective games players usually improvise under a pre-set strategy. In the second case, the player is alluding to pre-composed strategies.[15] As she understood the strategy as efficient, she stated that she would resort to the same strategy when in similar game situations. Therefore, the data demonstrates the parallels between the creative processes employed by jazz musicians and team games players. Here, it can be concluded that, just like jazz musicians, the broader the base of motifs, the better equipped the players are to improvise.

Empathetic attunement: Communication on court

The types of communication employed by jazz musicians, as established by Seddon[14], were a valuable tool to understand the athletes' interactions. Seddon's framework recognised communication channels as verbal and non-verbal, utilised in the creative process by jazz musicians. Due to rules and conventions of the volleyball game, most of the decisions are made before the play, since the players decide the collective attacking movements before the ball is in play. Seddon[14] classified this process as verbal instruction; as it would appear on a volleyball court, the setter, establishes and instructs her teammates about the attacking movements. Also, embedded in Seddon's framework, is the concept of empathetic attunement. According to the author, this represents the ideal communication channel to create and improvise within a jazz group. When in this state, musicians take creative risks and respond to each other's musical utterances.[14] In a sporting context and especially, within a volleyball game, this concept is particularly relevant to understand the athletes' decisions when the pre-planned attacking strategy is not possible, due to emerging

changes in the game's characteristics. Consequently, the players will observe their peers' actions, body language, game conditions and cues to construct the best possible creative outcome. These sorts of behaviours where sporadically observed during the study's second cycle, as the following quote illustrates:

> *"The aim was to ensure the attackers would 'read' the context and their decision would emerge from a conscious reading of the context. Occasionally, the players were able to reformulate their attacking strategy, in play, as a reaction to the movement of the rest of the players. However, not every adaptation was the most effective to score a point."*
>
> (Reflective Log, Training Session n.4)

Here, some of the athletes demonstrated the sensibility and attunement to their surroundings, by improvising creative and appropriate decisions to the emergent changes of the game. This attunement was discussed during the second focus group:

> *"We feel more confident. We have a different perspective of the game and communicate better. We kind of know what each other is thinking"*
>
> (Hellen, FG2)

However, a decrease in the performance was observed due to a range of different factors, such as the Easter holidays, a reduction in the number of trainings, (due to the end of the competitive period of the season), and consequently a decrease in the attendance from some of the most experienced players. All these factors contributed to a reduction of the overall quality of the training sessions and consequently of the occurrences of these type

of behaviours, demonstrating the importance of sustained practice on the development of creative skills.

The effect on the players' communication channels

To achieve Kenny's[3] key principle of maintaining challenge and building knowledge through leadership and collaboration, the collaborative nature of the creative process required a shift in the first author's coaching practices, in which the players' voice required more space on the training court. Therefore, to provide further opportunities for players to collaborate, longer discussion times were necessarily allocated before and after the play. Here, most of the discussions and exchanges observed were democratically conducted by the players, in which most of the players had their voice heard in the group. These exchanges refer to the discussions prior to the play - verbal cooperation or following a play - verbal collaboration.[14] As instigated by the coach (and lead researcher), the recurrent themes of these exchanges were on strategies to outsmart the opponents through collaboratively planned creative attacking strategies. On the second entry of the reflective log (in week 2), it was recorded that players "*prescribed what they could do*" to each other. This contrasts with the quote below, exemplifying a shift in the players' communication habits:

> *Regarding their exchanges, similar to what has been happening, none of the players seem to prescribe to the rest of the players about how to act. The negotiation works via suggestions made by the players.*
>
> (Reflective Log, training session n.14)

Moreover, the players were encouraged to exchange feedback after the play, discussing and evaluating their performance, or, as defined by Seddon[14], through verbal collaboration. Indeed, recurrent allocation of extra time for players' discussion led such

exchanges to gradually occur independently, without any prompt from the coach. The following quotes demonstrate the contrast evidenced at the beginning and end of the study*: "Even though I was questioning the participants frequently, they were not providing any answers or solutions during the discussions"* (Reflective Log, Training session n.2). In contrast to: "*The players were frequently pre-planning most of their attacking strategies, including what would happen if the game's context would not allow for the set strategy."* (Reflective Log, Training session n.14). In fact, this transformation exemplifies how the participants evolved as a consequence of the implemented intervention.

Furthermore, through the focus on improvisation, the quality of in-play communication channels established by the athletes, emerged during the second research cycle as an aspect to improve. Therefore, to respond to the emergent issues raised by the game and subsequent adaptation to the pre-established strategy, the in-play communication needed to be short, concise and clear, as obliged by the particularities of the volleyball game. The following quote establishes the view of one of the players regarding the improvement of in play-communication: "*We learned to be more specific in what we were communicating.* […] *specifically saying what it is that you're ready to do* […]. *Instead of saying 'yeah', you'll say 'fast ball'."* (Abigail, FG 2). Since the players were focused on improvising creative tactics, clarity in the communication was deemed essential, since any improvised movement and change to the strategy had to be quickly and clearly articulated, so that the rest of the teammates could react according. These behaviours are therefore aligned with the concepts of emergence[2,7] and empathetic attunement[14] where improvisers go beyond supporting their fellow players; they will feed from each other's performance to inform their individual, subsequent action.

Conclusion

In summary, the conception of creative responses to the challenges raised by the volleyball game, functioned as a means to enhance the players' tactical and strategical knowledge.[15] Pre-planned, creative strategies were collaboratively set by the players, leading to a raised awareness about the complexities of the game and considering them within their own decision-making process. Additionally, the focus upon the players' ability to improvise creative tactics, when facing the emergent challenges imposed by the game, demonstrated sporadic evidence of empathetic attunement.[14] Moreover, as the focus was on collaboratively composed creative responses, the players' communication channels evolved; being more frequent, clear and concise. Finally, after borrowing the concept of 'motifs'[16] from jazz, the players demonstrated a similar *modus operandi* to jazz musicians, resorting to previously utilised and applied knowledge to tackle the game's challenges.

This study represents the first step in understanding what sport coaches can learn from creativity experts, such as jazz tutors. Consequently, it left a range of questions unanswered. For example, further research is needed to clarify the role of motifs within the decision-making process in team games and to explore the possibility of constructing creative tactics and strategies[15] during the defensive moments of the game. Additionally, forthcoming research should expand the data collection period, collecting a broader dataset to allow a more accurate representation of the phenomenon. Furthermore, similar studies could be conducted in other sports, with different ages and levels of experience, to more accurately reflect the reality of the coaching context and make this approach more accessible to other coaches.

Future research could consider the transferability of other underpinning concepts from the jazz literature into the coaching field. For example, Sawyer's[7] focus on leadership

within the creative process or the concept of group flow.[7,11] In conclusion, further research is required, not only to support and challenge the results of this study but also to attempt to answer some of the questions left unanswered within this article. Finally, future research could focus on the potential of collaborative practices within sport coaching education programmes.

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