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## **Teaching styles of Australian junior tennis coaches**

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Game Sense was introduced to Australian tennis during Australian Sports Commission (ASC) national workshops in 1996, prompting tennis coach education providers to emphasise the approach, and its embrace of increased player involvement in the coaching process, in formal coach accreditation literature. This research involving 208 junior development and club professional coaches in self-assessment of their teaching styles, provides insight into the penetration into the everyday coaching practice of one of the central pedagogical tenets of the Game Sense approach – the use of well-considered coach questions to guide the development of players’ technical and tactical game development. Since the ASC workshops in 1996, until this research there has been no assessment of the uptake of the Game Sense approach in Australian tennis. The pedagogical practice of coach-led questions in the Game Sense approach has been referred to as a form of guided discovery. This research used Mosston and Ashworth’s Spectrum of Teaching Styles (2008) (The Spectrum) as a tool through which to investigate the coaching styles of Australian junior tennis coaches, revealing coaches self-identified alignment with the guided discovery practice of coach-led questions (Mosston’s Guided Discovery-Style F). The research found that a practice style (Mosston’s Practice Style-B) was the pedagogical style used most often by the respondents, followed by a more directive or command style (Mosston’s Command Style-A). Guided discovery (Mosston’s Guided Discovery-Style F) was the third most commonly adopted pedagogical practice.

## **Introduction**

The Australian sport Playing for Life philosophy is underpinned by the Australian coaching pedagogy known as the Game Sense approach (GSA) (Australian Sports Commission (ASC), 2015). This approach is described as one that employs games rather than drills to introduce tactical and technical dimensions of play. The GSA is described as being defined by the following concepts:

1. The game is the focus of practice, whereby players are challenged to think about what they are doing and why they are doing it via primarily games selected to purposefully achieve this objective;
2. The coach/teacher role is to act more as a facilitator setting challenges and guiding player problem solving for player learning by self-discovery;
3. A pedagogical emphasis on questioning in preference to directing and ‘telling’ players what to do; and
4. The pedagogical use of the manipulation of environment, player and task constraints to modify games to purposefully achieve the objective of learning what to do and why to do it as complimentary game dimensions interwoven into the development of skillful ‘thinking’ players (ASC, 1996; 1999; 2015; den Duyn, 1997; Schembri, 2005).

The GSA was introduced as the preferred coaching practice in Australian sport during the early-to-mid 1990s by the ASC (ASC, 1996), prompting tennis coach education providers to emphasise the approach and its embrace of increased player involvement in the coaching process in formal coach accreditation literature. The Australian Tennis Coaches Conference in 1996 featured discussion on the GSA (Hewitt, 2015). The content of coach education guides and manuals now emphasise a game-based approach (Tennis Australia, 2010a, 2010b). This move in coach education in Australia via the GSA is mirrored in the global direction in tennis away from a coaching focus on directive instruction of a ‘technical stroke



model' encouraging players to copy idealised stroke mechanics towards a game-orientated approach in coach education provided by coaching associations (Crespo, 1999; Holt, Streat & Bengoecha, 2002). This pedagogical direction has been described as a 'discovery' approach where technique teaching is placed within the context of a game (Crespo & Reid, 2009), and the preferred way of teaching novice and beginner players is with an emphasis on match play and the incorporation of isolated technique work is kept to a minimum (Tennis Australia, 2010a).

Tennis Australia coach education materials emphasise a discovery approach (Tennis Australia, 2010a, 2010b). The GSA pedagogical emphasis on the use of well-considered questioning to guide and direct learning has been described as guided discovery or a discovery style (Breed & Spittle, 2011; Light, 2014; Pill, 2007; 2012). Guided discovery is described by Mosston and Ashworth (2008) as a 'landmark teaching style' characterised by the pre-determination of the sequence of steps (in the context of the GSA, the sequence of questions) that will "gradually and securely lead the student to discover the end result" (Mosston & Ashworth, 2008, p. 214); in other words, the GSA has been likened to a process of coherent and logical progressions leading to the 'discovery' of the target concept, principle or idea. "The role of the learner is to discover the answers" (Mosston & Ashworth, 2008, p. 212) via "logical and sequential design of a series of questions that lead a person to discover a predetermined concept, principle relationship or rule that was not previously known" (Mosston & Ashworth, 2008, p. 212). This discovery process is unlike what is described as a 'traditional' sport-as-sport techniques (Kirk, 2010) coaching approach where largely directive instruction of a 'technical stroke model' encourages players to copy idealised stroke mechanics.

Guided discovery is a misunderstood term and its conception within the Spectrum is significantly different to how guided discovery is viewed in other teaching approaches.

This research used The Spectrum as a tool through which to investigate the self-reported coaching styles of Australian junior tennis coaches to determine the alignment of pedagogical practice with the key pedagogical tenets of the GSA of a ‘discovery’ oriented practice environment. This research involved 208 junior development and club professional coaches in self-assessment of their teaching styles. The research has filled a gap in the GSA literature as since the ASC workshops in 1996, until this research, there had been no assessment of the uptake of one of the key pedagogical devices of the GSA in Australian tennis and thus whether the coaching direction preferred in the Australian sport Playing for Life Philosophy and tennis coach education specifically was evident in the field. This research is significant as it is acknowledged that to impact the practice and behaviour of coaches requires that they acknowledge what they do, in addition to the assumptions that support and inform their coaching (Harvey, Cushion & Massa-Gonzalez, 2010).

## **Method**

This paper reports stage 1 of three stages of a larger study which investigated the instructional practices of tennis coaches. Stage 1 was a survey questionnaire of the perceived teaching styles of tennis coaches, Stage 2 was a series of systematic observations of the tennis coaches in action teaching students in sessions, and Stage 3 was a series of follow-up interviews with selected participants from Stages 1 and 2.

Stage 1 consisted of a survey questionnaire which reported the teaching styles that tennis coaches’ believe they used during coaching sessions throughout the year. The survey questionnaire used an adapted description inventory of landmark teaching styles developed from Ashworth’s (2010) *Description inventory of landmark teaching styles: A Spectrum approach* and SueSee, Ashworth, and Edwards (2007) *Instrument for collecting teachers’ beliefs about their teaching styles used in Physical Education*. The adapted description inventory of landmark teaching styles provided a scenario description of each of the eleven



teaching styles on The Spectrum to more directly connect to the field of coaching. Written or verbal permission to employ the necessary changes to the descriptions was granted by Prof. Sara Ashworth, Associate Prof. Ken Edwards and Dr. Brendan SueSee.

Creswell (2012) indicates that survey questionnaires are a valuable method of data collection when attempting to encapsulate a large number of responses as a sample of a population, which this research attempted to do. The survey questionnaire consisted of two parts. Part A posed questions relating to socio-demographic information in addition to coaching habits. These questions included: gender, age, and state or territory where you currently coach, highest educational qualification, coaching qualification that you are currently completing, how many years you have been coaching, how many hours a week you coach, the age group that you spend most time coaching, and the level/standard of the students you coach. Part B of the survey questionnaire then presented one question relating to the description inventory of landmark teaching styles. The question (for each of the 11 landmark teaching styles for which a description was provided) was: *'How frequently do I use this landmark teaching style in my coaching sessions throughout the year?'* A five-point rating scale was used for participant ratings. The items used for the question consisted of: *not at all, minimally, here and there, often, and most of the time*. An example is shown in Figure 1.

Landmark Teaching Style	Scenario Description of Landmark Teaching Style				
A	The students perform the task, selected by the coach, in a unison, choreographed, or precision performance image following the exact pacing (cues) set by the coach.				
How frequently do I use this landmark teaching style in my coaching sessions throughout the year?	Not at all	Minimally	Here and there	Often	Most of the time
	1	2	3	4	5

**Figure 1. Frequency of Landmark Teaching Style.**

An example of one scenario description from the description inventory of landmark teaching styles which shows a five-point rating scale used to measure how frequently a landmark teaching style was used.

To assess the effectiveness and comprehensibility of the survey questionnaire a pilot study was conducted with 50 tennis coaches. Following feedback from the pilot survey minor modifications were made to some of the inventory descriptions that more closely related them to tennis coach. Following ethics approval, the survey was then deployed with all coaches enrolled in the Junior Development and Club Professional coaching courses between 2009 and 2011 were invited to participate in the survey questionnaire. A total of 208 tennis coaches enrolled in the JD formal accreditation tennis coaching program (n=130) and the CP formal accreditation tennis coaching program (n=78) between the later part of 2009 through to the end of 2011 completed the survey questionnaire. The survey questionnaires were distributed to the participants via their local Coach Development Coordinator (CDC). All coaches who agreed to participate in the study were provided with: (a) formal letter of invitation and plain language statement, and (b) the survey questionnaire.

The IBM Statistical Package for the Social Sciences (SPSS) Version 20.0 was used to perform analyses on the survey questionnaire variables. In addition to these descriptive

statistics, one-way analysis of variance (ANOVA) was used to explore differences in mean responses by CP and JD coaches about their self-reported usage of teaching styles during coaching sessions throughout the year. Non-parametric Mann Whitney tests were conducted to test for differences between medians. One-way analysis of variance (ANOVA) and post-hoc LSD tests were additionally employed to explore the differences in mean responses from all the coaches as a single group (n=208) with regard to their self-reported usage of teaching styles and:

- Level of players the coaches spent most time coaching per week.
- Age group most time spent coaching per week.
- Hours of coaching spent per week.
- Years of coaching experience.

In order to determine whether there was a significant association between coaching qualification and hours of coaching, level of students the coaches spent most time coaching, years of coaching and the age group the coaches spent most time coaching, Chi-square tests were performed.

## **Results and discussion**

The majority of participants reported that they coach beginner players (51%). With respect to the age group that the participants spent most time coaching, 38% reported to coaching students in the age bracket of 6-8 years, 26% stated that they coached players between 4-5 years of age and 22% indicated that they spent most time coaching students aged between 9-11 years of age. Over 80% (n=171) of the coaches were male, while females constituted 17.79% (n=37) of the participants. The largest percentage of coaches (40.87%) (n=85) was aged between 20 and 29 years old, with almost 34% (n=69) of coaches aged in the 15 to 19 years age bracket. The age bracket of 30 to 39 represented just fewer than 15% of coaches, while 7.21% (n=15) of coaches reported to being aged between 40 and 49 years at the time of

the study. The smallest percentage of coaches was in the 50 plus age category (3.85%). Table 1 shows the breakdown of responses for data collected with the survey questionnaire. The teaching styles are listed in the first column.

**Table 1. The total breakdown and percentages of all tennis coaches’ self-identified usage of teaching styles after reading the scenario descriptions (n=208).**

Self-Identified usage of teaching styles by all tennis coaches’ after reading the scenario descriptions (n=208)											
Teaching Style	<i>Not at All</i>	%	<i>Minimally</i>	%	<i>Here and There</i>	%	<i>Often</i>	%	<i>Most of the Time</i>	%	Total coaches
Command Style-A	4	1.9	36	17.3	62	29.8	93	44.7	13	6.3	208
Practice Style-B	3	1.4	25	12	58	27.9	100	48.1	22	10.6	208
Reciprocal Style-C	43	20.7	73	35.1	55	26.4	33	15.9	4	1.9	208
Self-Check Style-D	40	19.2	62	29.8	62	29.8	42	20.2	2	1.0	208
Inclusion Style-E	49	23.6	56	26.9	48	23.1	51	24.5	4	1.9	208
Guided Discovery-F	15	7.2	40	19.2	57	27.4	78	37.5	18	8.7	208
Convergent Discovery Style-G	26	12.5	52	25.0	81	38.9	42	20.2	7	3.4	208
Divergent Discovery Style-H	9	4.3	39	18.8	84	40.4	67	32.2	9	4.3	208
Learner Designed Individual Program Style-I	57	27.4	76	36.5	54	26.0	20	9.6	1	0.5	208
Learner Initiated Program Style-J	63	30.3	85	40.9	50	24.0	9	4.3	1	0.5	208
Self-Teaching Style-K	73	35.1	69	33.2	51	24.5	14	6.7	1	0.5	208

The survey questionnaire indicated that coaches reported using two ‘reproduction’ teaching styles (Mosston & Ashworth, 2008) most frequently (*often to most of the time*) during coaching sessions throughout the year – Command Style-A (51%) and Practice Style-

B(58%). The coaches also reported to using Guided Discovery-F (46%) as the third most commonly used teaching style. Two classifications of thinking capacities are captured in the 11 styles of The Spectrum. One of those thinking capacities is reproduction. All individuals have, in varying degrees, the capacity to reproduce known knowledge, replicate models, recall information, and practice skills. Additionally, all individuals have the capacity to produce a range of new ideas. The first five landmark teaching styles (Command Style-A, Practice Style-B, Reciprocal Style-C, Self-Check Style-D, and Inclusion Style- E) form a *cluster* that represents teaching options that foster *reproduction* of existing (known, past) information and knowledge. The information to be learned can also be new to the learner but the content is fixed, specific, a model or procedure. The remaining teaching styles (Guided Discovery Style-F, Convergent Discovery Style-G, Divergent Discovery Style-H, Learner-Designed Individual Program Style-I, Learner-Initiated Style-J, and Self-Teaching Style-K) form a *cluster* that represents options that invite *production* (discovery) of new knowledge. This knowledge is new to the learner, and it may be new to the teacher, or at times, new to society (Mosston & Ashworth, 2008). The GSA is emphasised as developing ‘thinking players’, and The Spectrum teaching styles provide a guide as to the type of thinking (reproduction or production) fostered by the use of the teaching style.

Over 51% (n=106) of the participants reported to using Command Style-A from *often* to *most of the time* during their coaching sessions throughout the year. While only four coaches (1.9%) from the total sample (n=208) reported to not employing this style at any stage during coaching sessions. Practice Style-B was the most frequently reported teaching style by coaches in this study. Approximately 60% of the participants stated that they employed this style from *often* to *most of the time*. Twenty-five coaches (12.0%) reported to using this style *minimally*, while only three coaches (1.4%) from the overall sample of 208 said that they did not use this style at all during coaching sessions throughout the year. The third most used teaching style as reported by coaches was Guided Discovery-F. Almost 50%

of the participants employed this style *often to most of the time* during lessons. While 57 coaches (27.4%) revealed that they used this style *here and there*, 15 participants (7.2%) indicated that they did not employ this style at all when coaching. The data shows that JD and CP tennis coaches in Australia largely self-identified similar teaching styles from *often to most of the time* in their coaching sessions throughout the year. Results also revealed that JD and CP coaches reported spending most of their time using teaching styles located in the *reproduction cluster* of The Spectrum (Mosston & Ashworth, 2008). We would argue that the finding of mostly Command Style-A and Practice Style-B teaching styles indicates a common coaching practice purposing instruction of a ‘technical stroke model’ and encouraging players to reproduce (copy) idealised stroke mechanics, or what one might colloquially call ‘textbook techniques’.

Overall, the coaches in this study reported to using all the teaching styles during coaching sessions. On closer inspection, however, a more accurate interpretation concerning the frequency with which they believed that they used all the teaching styles emerged. Only three teaching styles were reported from *often to most of the time* by over 45 percent of Junior Development (JD) and Club Professional (CP) tennis coaches. These included: Practice Style-B (58.7%), Command Style-A (51.2%), and, Guided Discovery Style- F (46.2%). Practice Style-B and Command Style-A are located in the *reproduction cluster* of The Spectrum (Mosston & Ashworth, 2008) and share similarities with direct instruction guidelines, or what Metzler (2011) describes as a Direct Instruction pedagogical model. Coaches who employ direct instruction enforce the majority of the instructional decisions during the session and players are directed to acquire and use this knowledge in ways stipulated by the coach. The different perspectives of Guided Discovery as outlined by The Spectrum and guided discovery as applied to GSA and other approaches is not clearly determined and doing so would be beneficial to sports coaches. Guided Discovery Style-F is located in the *production cluster* of The Spectrum (Mosston & Ashworth, 2008). This



teaching style shares some pedagogical principles associated with indirect and discovery instruction guidelines typical of the GSA, whereby or coach includes the players in decision making to promote discovery and creativity of knowledge and skills.

## **Conclusion**

The identification of different features within pedagogical behaviour among tennis coaches in Australia will be particularly crucial to enhancing coach education programs – namely on a content and learning strategies basis. Owing to these reasons it would appear necessary for coach education providers to understand what teaching styles tennis coaches are presently employing and if they are using a range of teaching styles aligned to the emphasis recommended by coach education providers. The study results, based on beliefs about teaching styles employed, show that JD and CP tennis coaches in Australia do not use a range of teaching styles consistent with the pedagogical emphasis of the GSA during their coaching sessions throughout the year.

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