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Scaffolding women coaches' development: A programme to build coaches' competence and confidence.

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Abstract

Research continues to demonstrate the under representation of women coaches and that barriers outweigh support. The purpose of this practical article is to describe the process undertaken by a National Governing Body of Sport (NGB) to deliver a learning and development programme to support women hockey coaches in Scotland, the Women in Coaching (WiC) programme. Our aim is to share understanding about this example of good practice to provide insight and direction for change that can enhance the experiences and provisions of coach education and development for women coaches. First, we explain the use of scaffolding as a concept to capture the approach adopted in the programme to bring together a range of learning situations (e.g., coach education, workshops, systematic observation of coaching practice, mentoring). We then describe and discuss the evidence gathered to inform programme development (i.e., workforce analysis, interviews with coaches). Next the delivery of the programme and assessment of its impact are discussed (i.e., pre-post self-perceptions, players' perceptions, coaching behaviours, reflective survey). Finally we present best practices based on the lessons learned from our involvement with the programme over the past six years.

Key words: scaffolding, coach learning, coach education, intervention, Scotland, hockey, women coaches

Introduction

There has been much research and discussion on the under representation of women in coaching and particularly in performance environments such as [collegiate](#), national, and international sport. Research documenting the numbers of women and men coaching has demonstrated that this under representation is not restricted to one country and includes the UK (Bruce, 2014; Norman, 2008), USA (Acosta & Carpenter, 2012; LaVoi & Dutove, 2012) Canada (Reade, Rogers, & Norman, 2009) and NZ (Allen & Shaw, 2009). Examinations to better understand this issue have explored topics such as the masculine culture of sport (Norman, 2013), organisational factors including recruitment (Reade et al., 2009; Norman, 2010), pathways (Barker-Ruchti, Lindgren, Hofmann, Sinning, & Shelton, 2014), education (Lewis, Roberts, & Andrews, 2018) and support (Allen & Shaw, 2013). Unfortunately, this research paints a rather bleak picture of the plight of women coaches.

LaVoi and Dutove's (2012) literature review of barriers and supports for women coaches provided a useful examination of both sides and different levels of the picture using Bronfenbrenner's ecological systems theory model. They organised barriers and supports into four ecological levels: individual, interpersonal, organisational, and sociocultural context. Whilst it is encouraging that factors which support women coaches were apparent, LaVoi and Dutove (2012) concluded that barriers far outweigh supports at all ecological levels and that research has focused "far more on problems, issues, and barriers" (p. 30). We applaud the efforts of researchers to date and agree that there is much which needs to be addressed to create a more positive environment and improve experiences for women coaches. There are, however, examples of good practice and several organisations have made efforts to ensure women coaches are respected, valued, and supported. The work of groups in Canada such as the Coaching Association of Canada's (CAC) "We are coaches" recruitment campaign and training programme (Demers, 2009) and the House of Commons Standing Committee Report outlining key education, policy, and advocacy recommendations to advance women coaches (Demers & Kerr, 2018) provide examples of national initiatives across sports.

Complementing such large scale cross-sport initiatives, the purpose of this article is to describe the process undertaken by one National Governing Body of Sport (NGB) to deliver a

learning and development programme to support women hockey coaches in Scotland – the Scottish Hockey Women in Coaching (WiC) programme. Development began in 2012 with foundational research. The programme was launched in 2013 and is still running some six years on. We explain the development, delivery, and impact of the programme as well as lessons learnt during our management of the programme. Our aim is to share understanding about this example of good practice to provide insight and direction for change that can enhance the experiences and provisions of coach education and development for women coaches.

Coach Learning and Development

Coaches' learning situations have been described as formal, involving structured programmes that require participants to achieve certain standards and criteria for performance such as national coach education programmes leading to qualifications (Nelson, Cushion, & Potrac, 2006; Trudel, Gilbert, & Werthner, 2010). These are generally mediated, where a person other than the learner directs the learning (Werthner & Trudel, 2006), however, they may involve unmediated situations where the learner chooses what to learn and learning is self-directed (Werthner & Trudel, 2006) such as through discussions with other coaches who are also part of the formal programme. Other, typically mediated, learning situations include seminars, workshops, and conferences. These non-formal learning situations are organised activities offered to specific subgroups on topics of a particular interest (Nelson et al., 2006; Trudel, et al., 2010). Similar to formal learning situations, the organisation and content is typically designed by someone other than the learner. However, unlike formal learning, they are usually of short-duration (few hours) and not linked to assessment. In contrast, informal learning situations, which are largely unmediated and often involve internal learning, where the coach reconsiders existing ideas, include interactions with other coaches, reading books, searching the internet, experiences as an athlete and reflecting on current practice (Nelson et al., 2006; Trudel, et al., 2010; Werthner & Trudel, 2006). The topics for these informal learning situations may be directed by the coach (unmediated or internal) or directed (mediated) by a 'more knowledgeable other' (Vygotsky, 1978).

Research examining coaches' learning indicates that learning is sourced from many different learning situations, however, not all situations are valued or contribute equally to coaches' development

(Christensen, 2014; Nelson, Cushion, & Potrac, 2013; Vella, Crowe, & Oades, 2013; Werthner & Trudel, 2009; Winchester, Culver, & Camiré, 2013). For example, research suggests coaches' place less value on formal learning situations compared to other learning situations (Nelson et al., 2006). Formal courses have also been criticised for adopting a process of knowledge transmission from the coach developer to coaches (passive recipients), lacking in context and meaning, and failing to address coaches' desire for practical activity (Camiré, Trudel, & Forneris, 2014; Nelson, et al., 2013; Vella, et al., 2013). However, research has demonstrated that coach education has a positive impact on coaching efficacy (coaches' beliefs that they have the capacity to affect athletes' learning and performance, Campbell & Sullivan, 2005; Sullivan, Paquette, Holt, & Bloom, 2012). Furthermore, women golf coaches valued the structure and feedback provided by their coach education programme and the credible educators (McCullick, Belcher, & Schempp, 2005). In contrast, Lewis et al. (2018) found that, during their coach education, women football coaches in the UK experienced gender discrimination, inappropriate practices, feeling unwelcome, and a lack of self-worth which caused some to question their commitment to coaching and coach education. However, participants also suggested that female role models, either as coaches or coach developers, and women only courses, would provide a better experience for them. Therefore, formal mediated learning situations such as coach education appear to have both strengths and weaknesses for women coaches' development.

Non-formal and informal learning situations provide valued contributions to coaches' development such as opportunities to cover topics not covered in formal courses, observe coaches in authentic situations, converse with other coaches, and learn through coaching (Camiré, et al., 2014; Christensen, 2014; Falcao, Bloom, & Bennie, 2017; Stodter & Cushion, 2017; Winchester et al., 2013). They also present potential challenges to coaches' development and learning because they may lead to a somewhat ad hoc mix of developmental experiences (Cushion, et al., 2010). Additionally, non-formal and informal learning situations may limit coaches' development due to the uncritical adoption of coaching practices (Koh, Lee, & Lim, 2018; Stoszkowski & Collins, 2016) and a lack of awareness of areas in their coaching that could benefit from further development. Furthermore, in these learning situations coach developers may have a limited capacity to support and even guide the development of

coaches. Therefore, when considering how best to support and guide women coaches' learning and development it was useful to recognise the potential benefits and weaknesses of all learning situations. In line with arguments to move beyond the separation of learning situations to see learning opportunities as interacting and overlapping (Stodter & Cushion, 2017), the WiC programme, examined in this article, utilised a scaffolding approach (Wood, Bruner, & Ross, 1976) to integrate a variety of learning situations including coach education (typically formal mediated) and development opportunities (non-formal or informal mediated or unmediated).

Scaffolding Approach

We found the scaffolding metaphor (Wood, et al., 1976) and in particular, its integration with Vygotsky's (1978) Zone of Proximal Development (ZPD) provided a useful means to capture the approach of the programme. Specifically, ZPD is the gap between what the individual can do independently and what is possible with the guidance or collaboration of more capable others (Vygotsky, 1978), that is, the features of the task (Jones & Thomas, 2015). Scaffolding is "the support given to a student by a teacher when performing a task that the student may not otherwise be able to accomplish" (Van de Pol, Volman, & Beishuizen, 2010, p. 274). Combined, these suggest an interactive process between 'teacher' (coach developers) and 'student' (coaches) where both actively participate. The coach developers' support (scaffolding) must be contingent, adapted to the coach's current level of performance (and associated ZPD), and increased or reduced in response to the coach's developing competence (Van de Pol et al., 2010).

Scaffolding has been used by coaching researchers as a means to understand and explain the provision of structure to the complexity of coaching practice; to guide without prescribing (Jones & Thomas, 2015; Cooper & Allen, 2018). To date, the focus has been on how coaches employ notions of ZPD and scaffolding to facilitate athletes' learning. For example, Cooper & Allen (2018) found that coaches valued a model of coaching [to guide coaches' attention and identify knowledge and skills needed but without prescribing coaches' practices](#). In this way the model provided structure (and challenge) to guide planning, delivery, and reflection, when needed, but also freedom (even encouragement) to adapt to athletes and situations.

Adapting this approach to coaches' learning, the foundation of the WiC programme was to support rather than direct coaches' learning (scaffolding) and start with the coaches' individual needs and what they might be capable of with assistance (ZPD). The construction of learning activities were carefully considered to both initiate learning and react to coaches' progress. Thereby providing a structure to extend the coaches' capabilities but at the same time supporting their engagement in challenges by increasing or reducing complexity in response to their progress. This approach also allowed us to address concerns raised about uncritical adoption of coaching practices garnered from unmediated learning situations (Koh et al., 2018; Stoszkowski & Collins, 2016).

In the following four sections we: 1) describe the context in which the programme took place; 2) present the evidence-based development of the programme; 3) explain the programme delivery and its impact on coaches; and 4) share the lessons we have learnt through reflecting on our involvement as the WiC programme leaders.

Context of the WiC Programme

Hockey (field hockey) is a medium-sized sport in Scotland. In a country of approximately 4 million people, Scottish Hockey (NGB) has a membership of approximately 10,500 young people and adults. At the time the project began (2012), there was some evidence that women were under-represented in coaching roles despite [higher numbers attending](#) introductory coaching courses (Lyle, 2007; sportscotland, 2006). Furthermore, anecdotal insight from the NGB Coach Education Development Manager (CEDM; second author) suggested there was a lack of women coaches involved in hockey in Scotland. For example, there were no women coaches leading Scottish international squads (youth or senior) and few women were coaching club teams in the domestic national league competition. To establish the current state of the coaching workforce in Scotland, data related to coaching was extracted from the 2012 Scottish Hockey Membership survey. Members (N = 1,617) completed the survey which gathered demographic information and current and previous involvement in the sport (e.g., player, coach, umpire). Just less than a quarter of members (N=363, 22.4%) indicated involvement in coaching. They ranged in age from 16 to 69 years (M= 36.5 years).

With regards to gender, 60.8% were men and 36.6% were women (2.5% did not indicate their gender).

This analysis of the coaching workforce indicated that women were under-represented in hockey coaching in general and in all coaching environments except the children's environment (Figure 1). Seventy-six percent of women reported working in the children (5-11 years) or youth (12-18 years) environments compared with 58.3% of men coaches. In the children environment the proportion of women compared with men was approximately equal. However, in the youth and talent (performance pathway athletes) environments, one coach in three was a woman. While in the adult participation and high performance environments the imbalance was even greater where only one coach in five was a woman. These findings are similar to those reported across sports in the UK and other countries (e.g., Bruce, 2014; Norman, 2008; Reade et al., 2009).

The sport had a four-level coaching qualification structure which aligned with the United Kingdom Coaching Certification system (UKCC). Within this structure, coaches qualified at level 1 could assist in coaching delivery, whereas coaches qualified at level 2 and above were considered competent to lead coaching sessions. The proportion of coaches who held a coaching qualification was similar for men (70.6%) and women (71.4%). However, women (19.7%) were less likely than men (35.1%) to have qualifications appropriate for leading sessions (i.e., UKCC Level 2 or above). The majority of women (80.3%) were qualified to assist only (UKCC Level 1). Therefore, there was clear evidence to inform the NGB's strategy and funding allocation for an initiative to better support women hockey coaches in Scotland, particularly to take on lead coaching roles and work in different coaching environments.

WiC Research for Programme Development

To inform the content and design of the WiC programme, a small research project to examine the experiences and needs of women hockey coaches in Scotland was conducted. The findings from the workforce analysis revealed that fewer women coached in the 'higher-level' environments (i.e., talent, adult participation, and adult performance). Therefore, the study focused on women who had experience of coaching in these environments.

Research Process

Participants. Fifteen women who were currently coaching, or had recently coached, in the adult, talent development, or performance coaching environments were identified by the CEDM and invited to participate in a semi-structured interview to explore their development experiences and needs. Ten coaches agreed to participate in the study. The coaches ranged in age from 26 to 59 years (M= 43.4 years). Coaching experience ranged from 4 to 37 years (M=21.6 years). *The highest coaching qualification held by the coaches was: Level 3 (n=4), Level 2 (n=5), Level 1 (n=1).* Seven of the coaches had worked with international squads and all but one of these coaches had coached adult club teams in the domestic national league competition. The other three coaches had coached district teams (youth domestic representative talent development teams) and/or senior club teams (adult participation teams).

Data collection and analysis. The interviews focused on topics such as how the participant got involved in and developed their coaching, their experiences with coach education and continued professional development (CPD), support received, challenges faced, and desired opportunities for further development or involvement. Interviews were transcribed verbatim and thematically analysed (Braun & Clarke, 2006). The data were coded under 15 first order themes which were then reviewed and refined to develop the final higher order themes. To protect participants' identity, each coach was given a code (e.g., Coach A).

Research Findings and Discussion

Four higher order themes were developed: favourable conditions, development opportunities, personal support, and constraints and challenges. A brief description of each is provided below, along with illustrative quotes.

Favourable conditions. The factors that contributed to starting and progressing in coaching for these women were largely consistent with research examining supports and barriers for women coaches in other sports and countries (LaVoi & Dutove, 2012). These included previous playing experience, having an interest in coaching, availability of a coaching opportunity, possessing transferrable skills, timing in playing career, and being known or knowing the 'right' people. Coach E

commented that she was asked because “they were looking for other potential people... because I had my P.E. qualifications and obviously a knowledge of the sport...” Referring to being known at her club because of her playing career, Coach G commented “...the club knows me, they know who I am, so it was easy for me to get involved... I then got approached to coach the 15’s and 16’s at District level and then approached for the National stuff.” Knowledge and skills gained through experience as an athlete helped coaches to feel confident in their knowledge-base for coaching and supported their engagement. Coach D expressed it this way, “it doesn’t matter how successful you are, at some point people will still say something pretty down about you ... So you come back to confidence and putting yourself out there.” Being approached and invited to coach could be seen as a form of sponsorship (Kerr & Banwell, 2016). The fact that others thought they would be able to ‘do the job’ gave the coaches confidence to coach.

Development opportunities. Consistent with previous research regarding coaches’ (men and women) learning and development, our coaches engaged in a range of development opportunities, including coach education, workshops, practical coaching, discussing ideas with other coaches, working with a mentor/peer or coaching team, drawing on their experiences as a player for knowledge of the sport and insights into parts of the coaching process (Nelson et al., 2006; Werthner & Trudel, 2009). Somewhat in contrast to this literature, and in particular to women football coaches’ experiences (Lewis et al., 2018), and yet similar to McCullick et al. (2005) research with women golf coaches, these coaches valued formal coach education and workshops. Also consistent with McCullick et al. (2005) and research on coaches’ learning more generally these women valued opportunities to learn through observing, analysing, and discussing hockey and other sports at a high level (Christensen et al., 2104; Stodter & Cushion, 2017), sharing ideas with other coaches, and engaging in practical coaching (e.g., Camiré et al., 2014; Falcao et al., 2017; Stodter & Cushion, 2017). For example Coach A explained, “I’ve been to quite a few courses and they’re good but I think to get the real benefit, you just have to get out there and learn, sometimes through your mistakes, and sometimes through talking with other people.” These findings suggest that providing a range of learning situations including engaging coaches in practical experiences that extend their sport-specific and general knowledge, and coaching skills are likely to be well received and useful for coaches’ development.

Personal support. Coaches discussed the importance of feeling they were supported in their coaching. As Coach A put it “I mean, it's a very lonely place to be because you put everything on the line to coach a team.” The support coaches experienced came from connections with other coaches, support from a partner, friends, peers, mentors (LaVoi & Dutove, 2012), and, less commonly noted in the research, organisational level support from NGB staff such as the CEDM (Allen & Shaw, 2009). The support included practical assistance with information, planning, or coaching activities. It also often included a person to discuss ideas with or ‘just be there’ for them. For example, Coach C valued having someone who was ‘there for her’, “you will struggle but you need to find someone to go, ‘its fine... it’s not because you’re a bad coach.... it’s just the norm’.” Critical to the quality of support was a trusting relationship where coaches did not feel judged but rather ‘felt safe’ to ‘expose’ their weaknesses, concerns, or frustrations. Coach E described her experiences of support in this way:

It is important to have somebody that you can bounce [ideas around with] and somebody that you know quite well and trust. It’s being able to say what you're feeling or what you think without thinking, ‘Oh I wonder what they’re going to think about what I’m saying?’ Such relationships suggest relatedness support and a growth oriented climate can be fostered by those around the coach (Allen & Shaw, 2009), which is important when seeking to create opportunities to learn and develop (Ryan & Deci, 2000).

Constraints and challenges. The coaches reported experiencing a number of constraints and challenges in their coaching and its development. Again, there were similarities with those identified by LaVoi and Dutove (2012) including life course priorities, coaching role expectations and commitments, availability of coaching opportunities, and access to development opportunities. Coach H’s comment captured the ‘boys’ network influence on coaching opportunities available:

It’s all very much who is around at the time, gets asked. They need to open it up to wider... have a look at who’s out there, more than right I know a guy, I’ll ask him and if he says no then it’s on to the next...

Recruitment processes, where individuals were invited to coach resulted in the recruitment of coaches based on who the recruiter knew and what he or she considered the right characteristics for a coach. Furthermore, a lack of open advertising and clear selection criteria also limited the coaches' opportunities to develop further.

Feeling undervalued and a lack of support were also significant challenges for some coaches (LaVoi & Dutove, 2012; Allen & Shaw, 2009). Coach B commented on her experience "...there was a lot of change... and not feeling you've got appropriate support. We had a particularly tough time ... I thought, 'Well... if I'm not of value anymore in this programme then I'll not do it any longer.'" As volunteer coaches who were generally unpaid, balancing the time commitment required for coaching with the financial and time requirements of their 'day-jobs' and careers was challenging for our coaches. Coach D commented that "many women... can't actually afford to take a long weekend out of their job three weekends in a row... you're making great sacrifices and it won't necessarily count in your favour when you go to get a promotion."

In summary, this research suggested that when developing the WiC programme we should openly advertise the programme but also invite potential participants to apply, particularly those who may not have the confidence to put themselves forward. The programme should include a range of learning situations that provide structure and direction but also opportunities for practical coaching, observation of others, and sharing experiences with other coaches. It would also be important to create connections amongst those involved in the programme where trusting relationships could be developed and coaches would feel psychologically safe and supported, not judged.

WiC Programme Delivery and Impact

The evidence gathered confirmed that 'something needed to be done' to better support women hockey coaches in Scotland. It also provided useful direction for elements of the WiC programme. The aim of the programme is to support women coaches to develop the quality of their coaching practice and confidence as coaches. This is achieved through the provision of a range of education and development opportunities tailored to the needs of the coaches.

Programme Content

Drawing on our research findings as well as evidence and recommendations from other research, a general structure for the programme was developed and potential types of content were identified. Learning situations available include self-analysis of coaching practice, developing action plans, regular [one-to-one](#) mentoring meetings, education, CPD workshops, players' feedback, observation of coaching practice, and feedback on their coaching practice. However, in keeping with our scaffolding approach we start with the coaches and determine their needs in collaboration with the coach developers. Through this approach the intention is to scaffold coaches' learning, providing guidance and support, where needed, whilst being flexible enough to ensure the actions are contingent to the coaches' current level of competence (and associated ZPD) and therefore, address the individual needs of the coaches (Van de Pol et al., 2010). To begin this interactive process, the coaches complete, with the assistance of a mentor, a self-analysis profile of their coaching practice and an action plan. In discussion with the coach, this information is used to identify coaches' current level of perceived competence and to begin to select potentially useful learning situations. Where appropriate, coaches are signposted to existing learning situations such as sport-specific or across-sport coach education and workshops. Where needed, bespoke workshops are delivered that address an area of interest/need for the coaches. These bespoke workshops tend to focus on hockey-specific content and frequently run alongside national or international hockey events (e.g., European Hockey Championships, Hockey World Cup, National team matches). Our approach meant that each delivery of the programme had a similar structure and yet what, when, where, how, with whom varied in response to each cohort of coaches.

The assessment of coaches' current level of competence is also informed through observation of their coaching practice in their own coaching environment with the players they usually work with. These sessions are video recorded and feedback reports and short video examples of their practice are given to the coaches and their mentors. Observing their coaching in context addresses concerns raised in coach education research that education is divorced from the coaches' reality and limited in practical activity (Nelson et al., 2013). The observation also provides insight to inform the individualised ZPD and intentions for scaffolding as well as an opportunity for feedback [which is one](#) of the means by which

scaffolding shapes learning (Van de Pol et al., 2010). To ensure feedback to coaches is meaningful, a number of tools developed for the programme are used. These tools also enable monitoring of the programme's impact. Descriptions of the tools, their content, and development process are provided in Table 1.

Programme Launch

In 2013, the Scottish Hockey Women in Coaching programme (WiC) began. To raise awareness of the WiC programme and the evidence base for its development, four regional roadshows were conducted. The roadshows involved a short presentation which introduced the findings from the research, encouraged coaches to consider their needs for the environment they coached in, and promoted the WiC programme. It was also advertised to the hockey community through clubs, districts, development officers, and the Scottish Hockey website. The first delivery of WiC started in August 2013, with an all-day event for the first cohort of coaches held at the Glasgow National Hockey Centre in conjunction with a hockey event. This induction and start of the programme gave participant coaches a chance to meet one another, the programme management team, and mentors. They also participated in a workshop, self-assessment process, and developed their action plans. In subsequent years with each new cohort of coaches, a similar, but smaller, induction event occurred. The first programme was a two-year programme with subsequent programmes being one-year in length. Bringing the coaches and coach developers together enabled us to begin to foster relatedness, the desired growth-oriented climate, and trusting relationships amongst coaches, as well as between coaches and coach developers (Allen & Shaw, 2009).

Workforce

A small workforce was identified for the programme which included a management team, mentors, and individuals for ad hoc workshop delivery. Our research findings and those from previous research had demonstrated the value and desire for women role models (Belding & Dodge, 2016; Demers, 2009; Lewis et al., 2018), therefore, where possible, the management team, mentors, and workshop tutors were women. In keeping with the scaffolding approach of the programme, the workforce worked to guide but not prescribe the learning for the coaches. Key strategies included

using evidence to inform feedback provided (e.g., systematic analysis of coaching practice, perceptions of players from anonymous surveys) which provided concrete examples to discuss, adopting a questioning and hinting style of interaction where possible, encouraging the coaches to develop their own understanding and meaning (Engin, 2013), and using instructing, explaining, and modelling only when greater guidance was needed (Van de Pol et al., 2010). For example, feedback from observed sessions provided evidence of coaching practice and posed questions for the coaches to consider which could then be discussed with their mentor. A question raised in several coaches' feedback was, how effective is the use of concurrent instruction throughout a practice? The discussion with the mentor about, in this case, concurrent instruction, could be led by the coach and/or guided by the mentor as needed to explore related areas of coaching practice such as the quality of instructions, managing groups, or when and how feedback is provided or built into activities.

Programme Impact

A full evaluation of the programme is beyond the scope of this article, however, below we present several key points related to the aims of the programme: programme reach, development of confidence, quality of coaching. These were identified through our review of the information gathered from coaches, players, mentors, and reflections of the management team during the delivery of the WiC programme.

Programme Reach. At the time of writing, the programme had been running for 5 years. There have been 4 cohorts, involving 16 coaches, 21 clubs, and 14 schools. Six coaches have been involved in Scottish National Youth Squads (international teams). Eleven coaches have engaged in supported coach education and obtained or are completing a UKCC qualification. In post-programme surveys, the coaches consistently rated the programme as *very good*. A coach in cohort 1 commented that “the WiC programme has helped me to improve as a coach and given me greater confidence. I would highly recommend it.” A coach in cohort 3 commented:

I would just like to thank the WIC which I feel has regenerated me as a coach and now given me a new network of faces to help me continue with my coaching and move forward to inspire more coaches/players in the future.

Examples of some success stories from the programme for each cohort are provided in Table 2.

Development of Confidence. Low confidence is a commonly reported barrier for women coaches (LaVoi & Dutove, 2012) and fostering perceptions of confidence and competence was a particular focus of the WiC programme. Although we did not measure confidence directly, comments from some coaches in the post-programme survey suggested that the programme had changed their perceptions of their coaching including improvements in confidence. For example, a coach from cohort 3 commented on the impact of the programme for her, “my confidence, that the doubt I had, I didn't need to have.” A coach from cohort 1 also commented, “I feel it has improved my confidence with my coaching.” Another indication that the coaches’ confidence improved during the programme came from the changes evident in their self-perceptions of coaching practice. For example, Figure 2 shows the increase in self-perceptions of coaches in cohort 3 from the beginning to the end of the programme. These findings support the research on coaching self-efficacy and coach education (Sullivan et al., 2012) which, although relatively limited with regards to examinations of women’s perceptions, suggests women’s confidence can improve through these formal learning situations (Campbell & Sullivan, 2005; c.f. Lewis et al., 2018).

Quality of coaching. An area that was an important focus for the programme was seeing improvement in coaching quality. Coaches’ comments in post-programme surveys indicated that as a result of their involvement in the programme, some coaches believed there were changes in their coaching practice including greater use of planning, seeking input from players, more reflection on sessions and coaching behaviours, and successfully completing coach education. These perceptions of change in quality of coaching are illustrated in the following quotes from coaches:

“I have taken the time to plan my sessions in advance, to include links with drills week to week.” (coach, cohort 3)

“I ask players more questions and give them more ownership.” (coach, cohort 1)

“I have taken the time to evaluate my sessions writing down good points, what worked and areas for improvements.” (coach, cohort 3)

423 “The programme has given me the encouragement and support to get through my level 2.”

424 (coach, cohort 2)

425 In addition to coaches’ self-reported changes in coaching practices, all coaches were observed
426 coaching in their normal coaching contexts on more than one occasion. Analysis of the coaches’
427 coaching behaviours using a systematic observation tool (see Table 1) enabled individualised
428 feedback as well as an opportunity to examine change in behaviours. As with any behaviour change,
429 changes were not uniform across coaches. However, Figure 3 provides an example of a coach from
430 cohort 1 who improved the quality of her coaching through reduction in the proportion of
431 management-related behaviours (organisation and instruction) and an increase in the proportion of
432 behaviours designed to assist players to improve their performance (i.e., technical/tactical
433 information, feedback, questioning) (analysis and intervention). Coaches valued this feedback about
434 their coaching and the opportunity to discuss it with their mentor. For example, a coach from cohort 2
435 commented that the “video feedback has been great... I found the feedback videos the most helpful
436 when feedback was given alongside these.”

437 Although not a focus at the beginning of the programme, having collected evidence of
438 coaching practice with each cohort, it was possible to examine behaviours across coaches which
439 revealed a propensity for hockey coaches to use a lot of organisation and instruction behaviours
440 (M=39.7%) and much fewer analysis and intervention behaviours (M=26.6%). This finding is
441 consistent with coaching behaviour observation research where instruction is the most frequently
442 observed behaviour (Cushion, 2010). The high proportion of instructional behaviours has been
443 associated with the view that coaching is about the transmission of knowledge from the more
444 knowledgeable (coach) to the less knowledgeable (athletes) and in order to be viewed as credible,
445 coaches ‘need’ to display these behaviours (Cushion, 2010). This view of coaching has been criticised
446 in favour of a more transformative process, whereby coaches pose problems or questions for players
447 encouraging them to explore alternatives and construct or re-construct knowledge. Therefore the
448 changes to the WiC coaches such as those in Figure 3 suggested a desirable impact on the quality of

coaching. This provided useful information for the CEDM who was able to raise the finding with the coach education workforce as a potential development need for coaches beyond the WiC programme.

Best Practices

Reflecting on our experiences with the programme, we have learnt a few lessons about the management, structure, and content of the programme that may be useful for others who wish to support women coaches.

Evidenced-Based

At the outset, and throughout the programme, we collected and recorded evidence related to the programme and coaches. Using research, both our own and others', we learnt from coaches' experiences of learning and development. Initially this provided evidence to justify the time and resources committed to the programme. It also informed the approach and content of the programme and continues to inform on-going improvements. Importantly, it provides feedback for coaches and mentors, which is used to facilitate discussions about coaching, determine needs (and associated ZPD), and enable scaffolding by the mentors (Engin, 2013; Van de Pol et al., 2010).

Scaffolding Approach

Our scaffolding approach to the provision of support for the women coaches has provided an alternative and useful means of conceptualising support and bringing together various learning situations for the coaches. Starting with the coaches' needs (e.g., level of competence) and ensuring an interactive process that provided structure and guidance to the coaches' learning and development (Engin, 2013; Van de Pol et al., 2010) enabled coach developers and coaches, themselves, to check and challenge their practice (Koh et al., 2018; Stoszowski & Collins, 2016) whilst being flexible enough to address individual needs (Jones & Thomas, 2015; Cooper & Allen, 2018).

Quality Workforce

The mentors and coach developers who are part of the programme are experienced in their roles and in coaching hockey. They are also all women. This provides the coaches with clear role models (Belding & Dodge, 2016; Demers, 2009; Lewis et al., 2018) who may have had similar experiences to those of the participating coaches. Their impact was enhanced by the good fit between their ways of

working and the scaffolding approach of the programme. For example, the use of questioning to facilitate coaches to find their own solutions to challenges they faced. Post-programme survey responses indicated that the coaches valued having a mentor and appreciated the mentor's approach when working with them. This is illustrated in the comment from a coach in cohort 2 who indicated that it was "helpful to talk through areas of difficulty with someone who has good knowledge. Instead of providing answers we talked about the situation and I came to a conclusion that would work."

Regular Contact

The programme is for coaches from across Scotland, however, to build connections, foster the supportive environment central to the programme, and keep momentum in the coaches' development, regular contact is valuable. The coaches this programme targets are volunteers with many temporal demands. Therefore, the expectations that all coaches will engage in all opportunities is unrealistic. We have found that "face to face" meetings early in the programme are particularly helpful to provide a strong foundation for the mentoring relationships, resulting in the development of a sense of relatedness with programme staff and other coaches (Allen & Shaw, 2009). Once that foundation is established, contact via online media became more productive.

Dedicated Programme Manager

Having one person who oversees and drives the programme has been essential. In our case it was the CEDM. With the support of the NGB, she was able to give valuable time and a small amount of funding to the programme. As an experienced coach developer, mentor, and coach, she was able to foster the climate and relatedness important to the programme (Allen & Shaw, 2009) and scaffold, guiding without prescribing, the activities of the workforce and coaches (Engin, 2013; Van de Pol et al., 2010). Given her role in the NGB and coaching community, she is able to sponsor coaches, making them aware of opportunities and supporting them for relevant roles within the NGB, districts, and clubs (Kerr & Banwell, 2016).

Conclusion

Much has been researched and written about the under representation of women as coaches and the barriers they face. The WiC programme emerged from a desire to support women coaches in one sport in Scotland and this article emerged from a desire to capture and share what we believe is an example of good practice. Features central to the programme include: developing an evidence base to inform content and monitor impact, engaging a quality workforce, endeavouring to maintain regular contact, and having an individual with the determination and skills to drive the programme. Crucial to the programme's success, however, is the overarching scaffolding approach - a commitment to start with the individual's needs and guide without prescribing. This enabled the integration of formal, non-formal, informal, mediated and unmediated learning situations to facilitate the coaches' development. The programme is not perfect, by any means, however, the evidence gathered from the coaches, players, mentors, and management team has demonstrated that it is having a positive impact on women coaches' confidence and quality of coaching. Importantly, the programme is valued by the women who have participated.

References

- Acosta, R. V., & Carpenter, L. J. (2012). Women in intercollegiate sport: A longitudinal, national study thirty five year update. Retrieved from www.acostacarpenter.org
- Allen, J. B., & Shaw, S. (2009). Women coaches' perceptions of their sport organizations' social environment: Supporting coaches' psychological needs? *The Sport Psychologist*, 23, 346-366.
- Allen, J. B., & Shaw, S. (2013). An interdisciplinary approach to examining the working conditions of women coaches. *International Journal of Sports Science & Coaching*, 8(1), 1-18.
- Barker-Ruchti, N., Lindgren, E., Hofmann, A., Sinning, S., & Shelton, C. (2014) Tracing the career paths of top-level women football coaches: turning points to understand and develop sport coaching careers, *Sports Coaching Review*, 3(2), 117-131,
- Belding, M., & Dodge, A. (2016). Examining the benefits of female-to-female mentorship as a result of participation in a female coach mentorship program. *Canadian Journal for Women in Coaching*, 16 (2). Available at <https://www.coach.ca/past-issues-p154727>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3 (2), 77-101.
- Bruce, A. (2014). *Female performance coach consultation: Summary Report*. Report for sportscotland and sports coach UK.
- Campbell, T., & Sullivan, P. J. (2005). The effect of a standardized coaching education program on the efficacy of novice coaches. *Avante*, 11(1), 38-45.
- Camiré, M., Trudel, P., & Forneris, T. (2014). Examining how model youth sport coaches learn to facilitate positive youth development, *Physical Education and Sport Pedagogy*, 19 (1), 1-17.
- Christensen, M. K. (2014). Exploring biographical learning in elite soccer coaching, *Sport, Education and Society*, 19 (2), 204-222.
- Cooper, D., & Allen, J. (2018). The coaching process of the expert coach: A coach led approach, *Sport Coaching Review*, 7 (2), 142-170.
- Cushion, C. (2010). Coach behaviour. In J. Lyle & C. Cushion (Eds.), *Sports Coaching: Professionalisation and practice* (pp. 43-62). London: Elsevier.

544 Demers, G. (2009). "We are coaches": Program tackles the under-representation of female coaches.
545 *Canadian Journal for Women in Coaching*, 9(2). Available at [https://www.coach.ca/past-](https://www.coach.ca/past-issues-p154727)
546 [issues-p154727](https://www.coach.ca/past-issues-p154727)

547 Demers, G., & Kerr, G. (2018). Promising initiatives could bring real change for women in coaching.
548 *Canadian Journal for Women in Coaching*, 18 (4). Available at [https://www.coach.ca/past-](https://www.coach.ca/past-issues-p154727)
549 [issues-p154727](https://www.coach.ca/past-issues-p154727)

550 Engin, M. (2013). Questioning to scaffold: An exploration of questions in pre-service teacher training
551 feedback sessions. *European Journal of Teacher Education*, 36 (1), 39–54.

552 Falcao, W. J., Bloom, G. A., & Bennie, A. (2017). Coaches' experiences learning and applying the
553 content of a humanistic coaching workshop in youth sport settings. *International Sport*
554 *Coaching Journal*, 4 (3), 279 -290. doi.org/10.1123/iscj.2017-0027

555 Jones, R. L., & Thomas, G. L. (2015). Coaching as 'scaffolded' practice: further insights into sport
556 pedagogy, *Sports Coaching Review*, 4(2), 65-79.

557 Kerr, G., & Banwell, J. (2016). Advancing women in coaching: Shifting from mentorship to
558 Sponsorship. *Canadian Journal for Women in Coaching*, 16 (1). Available at
559 <https://www.coach.ca/past-issues-p154727>

560 Koh, K. T., Lee, T. P., & Lim, S. H. (2018). The Internet as a source of learning for youth soccer
561 coaches. *International Journal of Sport Science and Coaching*, 13 (2), 278-289.

562 Lacy, A. C., & Darst, P. W. (1984). Evolution of a Systematic Observation System: The ASU
563 Coaching Observation Instrument. *Journal of Teaching in Physical Education*, 3(3), 59-66

564 LaVoi, N. M., & Dutove, J. K. (2012). Barriers and supports for female coaches: An ecological
565 model. *Sports Coaching Review*, 1 (1), 17-37.

566 Lewis, C. J., Roberts, S. J., & Andrews, H. (2018). 'Why am I putting myself through this?' Women
567 football coaches' experiences of the Football Association's coach education process. *Sport,*
568 *Education and Society*, 23 (1), 28-39.

569 Lyle, J. (2007). *Coaching Audit & Workforce Development Plan: Scottish Hockey Report*.

570 McCullick, B. A., Belcher, D., & Schempp, P. G. (2005). What works in coaching and sport instructor
571 certification programs? The participants' view, *Physical Education and Sport Pedagogy*,
572 10(2), 121-137, doi: 10.1080/17408980500105015

573 Nelson, L. J., Cushion, C. J., & Potrac, P. (2006). Formal, nonformal and informal coach learning: A
574 holistic conceptualisation, *International Journal of Sports Science & Coaching*, 1 (3), 247-
575 253.

576 Nelson, L., Cushion, C., & Potrac, P. (2013). Enhancing the provision of coach education: the
577 recommendations of UK coaching practitioners, *Physical Education and Sport Pedagogy*, 18
578 (2), 204-218.

579 Norman, L. (2008). The UK coaching system is failing women coaches. *International Journal of*
580 *Sports Science & Coaching*, 3 (4), 447-467.

581 Norman, L. (2010). Bearing the burden of doubt: Women coaches' experiences of gender relations.
582 *Research Quarterly for Exercise and Sport*, 81 (4), 506-517.

583 Norman, L. (2013). The challenges facing women coaches and the contributions they can make to the
584 profession. *International Journal of Coaching Science*, 7(2), 3-23.

585 Reade, I., Rodgers, W., & Norman, L. (2009). The under-representation of women in coaching: A
586 comparison of male and female Canadian coaches at low and high levels of coaching.
587 *International Journal of Sports Science & Coaching*, 4(4), 505-520.

588 Ryan, R.M., & Deci, E. L. (2000). Self-Determination theory and the facilitation of intrinsic
589 motivation. *American Psychologist*, 55 (1), 68-78.

590 sportscotland (2006). *Coaching Scotland*. Research Report no. 103.

591 Stodter, A., & Cushion, C. J. (2017). What works in coach learning, how, and for whom? A grounded
592 process of soccer coaches' professional learning, *Qualitative Research in Sport, Exercise and*
593 *Health*, 9 (3), 321-338, doi: 10.1080/2159676X.2017.1283358

594 Stoszkowski, J., & Collins, D. (2016). Sources, topics and use of knowledge by coaches, *Journal of*
595 *Sports Sciences*, 34 (9), 794-802, doi: 10.1080/02640414.2015.1072279

596 Sullivan, P., Paquette, K., Holt, N., & Bloom, G. (2012). The relation of coaching context and coach
597 education to coaching efficacy and perceived leadership behaviors in youth sport. *The Sport*
598 *Psychologist*, 26 (1), 122-134

599 Trudel, P., Gilbert, W., & Werthner, P. (2010) Coach education effectiveness. In J. Lyle and C.
600 Cushion (Eds.) *Sports Coaching* (pp. 135-152). Elsevier, London.

601 Van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher–student interaction: a
602 decade of research. *Educational Psychology Review*, 22 (3), 271–297.

603 Vella, S.A., Crowe, T. P., & Oades, L. G. (2013). Increasing the effectiveness of formal coach
604 education: Evidence of a parallel process. *International Journal of Sports Science &*
605 *Coaching*, 8 (2), 417-430.

606 Vygotsky, L. (1978). *Mind and Society*. Cambridge, MA: MIT Press.

607 Werthner, P., & Trudel, P. (2006). A new theoretical perspective for understanding how coaches learn
608 to coach. *The Sport Psychologist*, 20 (2), 198-212.

609 Werthner, P., & Trudel, P. (2009). Investigating the idiosyncratic learning paths of elite Canadian
610 coaches. *International Journal of Sports Science & Coaching*, 4 (3), 433-449.

611 Winchester, G., Culver, D., & Camiré, M. (2013). Understanding how Ontario high school teacher-
612 coaches learn to coach, *Physical Education and Sport Pedagogy*, 18 (4), 412-426.

613 Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child*
614 *Psychology and Psychiatry*, 17, 89–100.

615 Table 1.

616 *Feedback and Monitoring Tools*

Component	Tool	Description	Development Process
Self-assessment	Coaching practice wheel – coach	Coaches provide their perceptions of competence in 16 aspects of coaching which are organised into four areas: planning activities; effective actions in training; effective actions in games; and positive outcomes for players. Perceptions are rated on a scale from 1 (not at all) to 10 (excellent).	This tool was developed through examination of research and literature on coaching activities. Then discussed and adapted with the assistance of an expert coach and coach educator.
Athletes' feedback	Coaching practice wheel – player	Using the same 16 aspects of coaching as the coach-practice wheel, this tool asks athletes to provide their perceptions of their coach's practice. Perceptions are rated on a scale from 1 (not at all) to 10 (excellent).	This tool was adapted from the developed coach practice wheel.
Analysis of coaching	Hockey Coaching Observation Tool (HCOT)	A systematic observation tool The HCOT contains 14 different coaching behaviours which were organised into 3 broad areas: organisation and instruction; analysis and intervention; relationship and motivation.	Based on an established research coach observation tool (ASUOI) (Lacy & Darst, 1984), the HCOT was modified from to be appropriate to hockey.
Programme reflection	Post-Programme Survey	Online survey examining perceptions of engagement in the programme, learning, behaviour change, mentoring, and overall ratings of the quality of the programme and mentoring. The survey includes open questions and Likert type response questions rated on a scale from 1 (poor) to 5 (very good).	Questions were designed by the authors to provide evidence of the extent to which the aims of the programme were met.

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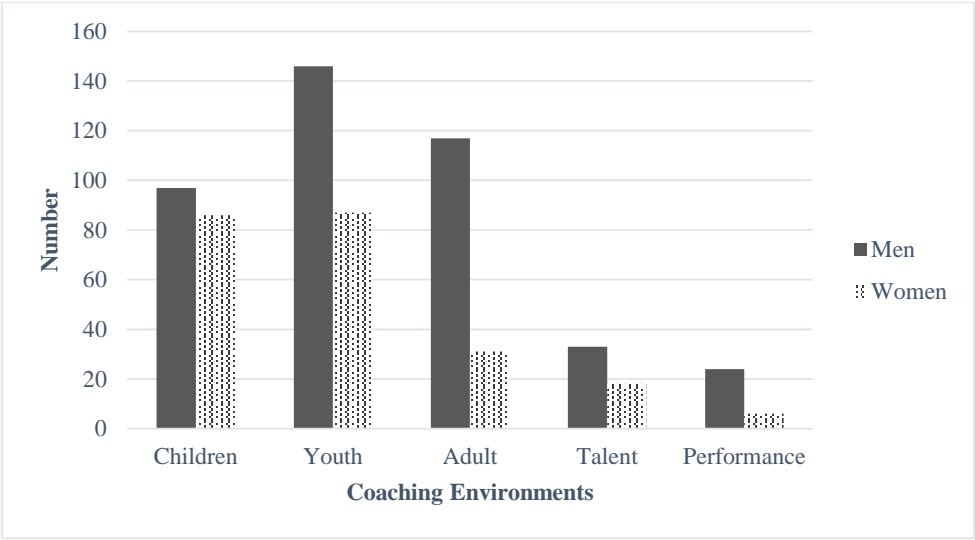
619 Table 2.

620 *Success stories of the WiC programme*

Cohort			
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Fulfilled her action plan and become Head Coach of the National U16 Girls.	Started as a specialist goal keeper coach, working only with goal keepers and did not see herself as lead coach. She now manages other coaches/young leaders in her club and coaches around 100 children on a weekly basis.	Never engaged with coach education or CPD because she felt intimidated by more formal learning opportunities. She is no longer scared to ask for help or attend CPD and has completed her UKCC Level 2.	Two coaches are coaching National League Division 1 teams, one of these coaches is also working with a National Youth Squad and District Performance Squad.
Engages in weekly coaching of District Performance Squad (part of the players' talent development pathway).	Primarily a player at the outset, is now focussing more on her coaching role with a National League Division 1 team (highest domestic competition).	Assistant coach for the National U16 Girls squad.	Started her own coaching business delivering hockey coaching to children and adolescents.
	Senior club coach and assisted with a national youth squad.	Head coach for the Scotland Universities Women's team.	

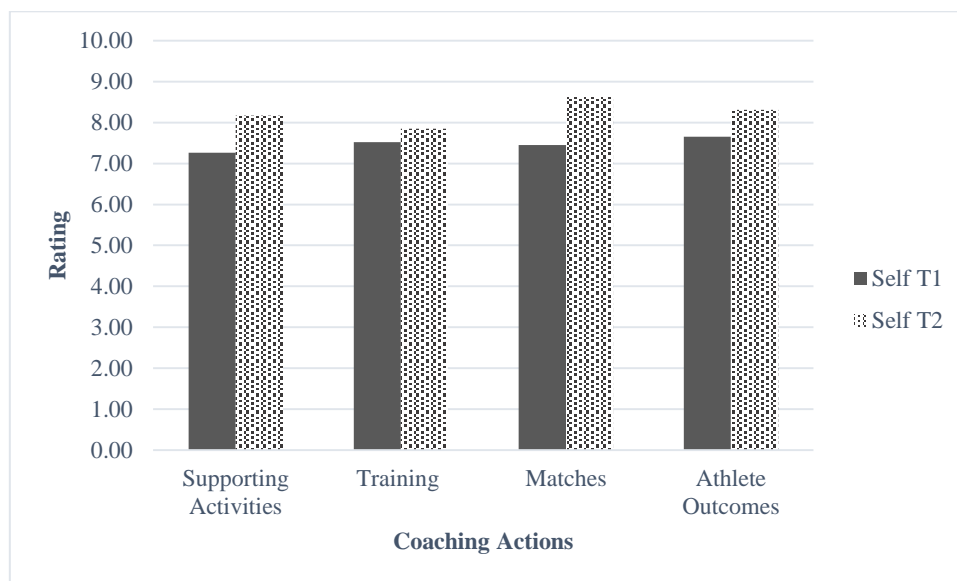
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622 Figure 1.
623 *Number of Men and Women Reporting Working in each Coaching Environment.*
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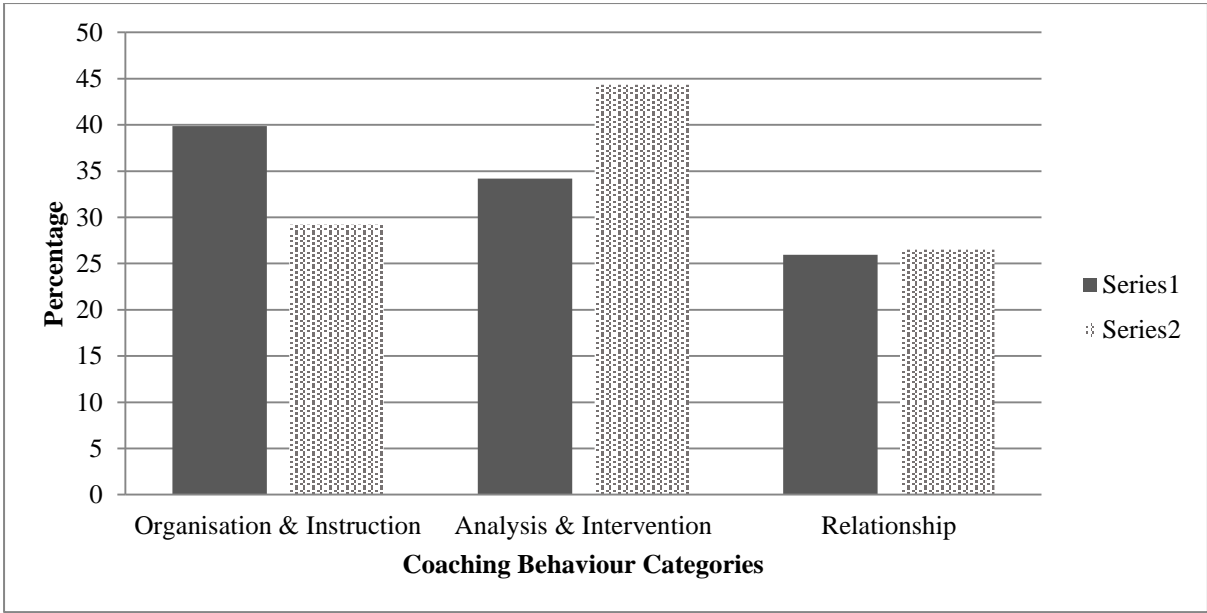
Figure 2.
Self-Perceptions of Coaching Practice over the Programme



Note. Supporting activities: plan, review/adjust, enthusiasm. Training: foster learning environment, keep information short and simple, foster self-analysis and decision making, apply knowledge to improve players, analyse and adapt for changing needs. Matches/Game play: keep info short and simple, foster self analysis and decision making, apply knowledge to improve performance, analyse and intervene for changing situations. Athlete outcomes: high proportion of focused activity, confident players, skilled players, enjoyment

Figure 3.

Comparison of Coaching Behaviours for One Coach Early and Late in Programme



Note. Organisation & Instruction: organisation, pre-instruction, concurrent instruction, check for understanding. Analysis & Intervention: technical/tactical explanation, positive modelling, negative modelling, specific feedback, questioning, on task observation. Relationship & Motivation: Use of first name, intensify, praise, reprimand.