CURRICULUM DEVELOPMENT IN SPORT COACH EDUCATION WITHIN A SOUTH AFRICAN CONTEXT: A CASE STUDY

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ABSTRACT

One of the objectives of coaching sport is improvement in athlete performance. Coach education can be viewed as a vehicle for enhancing the standards of coaching practice. The aim of this study was to demonstrate the development of a sports coach education curriculum model in a federation where no framework existed. A forward and backward curricular-mapping model was proposed, where coaches are given a voice in the development of curriculum outcomes, content knowledge and assessment. A mixed-methods approach was adopted with 35 coaches, who participated in a series of six themed formal educational workshops. The coaches completed pre- and post- workshop questionnaires to determine their perceived knowledge and actual knowledge gained. Coaches were provided with the opportunity to self-reflect on the content and assessment of each workshop. Results across the workshops showed a positive shift in coaches' perceptions regarding their content knowledge and self-assessment practice. This suggests that the implementation of the backward mapping process while designing a coach education curriculum assisted in developing relevant and contextual content, with integrated and authentic assessment, giving coaches an opportunity to have a stake in their educational pathway.

Keywords: Coach education; Curricular mapping; South African coaching framework.

INTRODUCTION

Sport coaching is primarily driven by a coach, with the objective of improving athlete performance (Douge, 2013; Mallett, 2013). In aiding the coaching process and thus athlete performance, coach education is a vehicle for enhancing coaching practice standards. This is achieved by developing a contextually relevant coach education curriculum that specifically addresses the needs of the coach in the field and the development of athlete performance. However, coach education is not purely the acquisition of knowledge, but encompasses the establishment of effective coaching skills, behaviours and attitudes (Lara-Bercial *et al.,* 2017). Globally, the International Council for Coaching Excellence (ICCE, 2016) has developed a framework as a reference point for coach development and education.

Within the South African context, coach education is being foregrounded by the implementation of the South African Coaching Framework, which positions itself within the ICCE framework and the long-term coach development model (SASCOC, 2012). Both seek to address the needs of coaches providing opportunities for the skills and competency development that underpin the goals set by government for the development of an active and winning nation (SRSA, 2012).

Validated career pathways for coaches are provided through the recognition of coaching competency and the development of skilled coaching for athletes. This is achieved within the formal and informal education sector through the provision of qualifications, coaching workshops and the recognition of prior learning. The aim of this research was to illustrate the development of a forward and backward mapping curriculum model for coaches within a sports federation where a coach education framework was non-existent.

Internationally, research within the coach education space is focused primarily on countries where robust systems are in place to develop and implement coach education programmes, such as those seen in the United Kingdom, Australia and the United States. This plethora of research examines the efficacy of coach education and development (Mallett *et al*., 2009; Dos Santos *et al*., 2010; Gilbert, 2010; Hussain *et al*., 2012; Piggott, 2012; Vella *et al*., 2013), and the educational needs of coaches (Erickson *et al.,* 2008; Morris-Eyton, 2016).

There is a paucity of research regarding the contextual generic sports coach education frameworks that have been exposed to robust testing and validation by sport coaches working in the field. The need for such a framework is valid within the South African context, which is in the infancy stage of coach education development and implementation.

An understanding of the sources of learning for coaches becomes a pivotal concept in the development of coach education content and curricula. A variety of opportunities for learning present themselves for coaches, who may learn to coach by being former competitors, parents or technical officials (Morris-Eyton & Coopoo, 2014; Morris-Eyton, 2016), through observing other coaches and drawing on their own sporting experiences (Thompson *et al.,* 2009; Morris-Eyton, 2016) or through formal education programmes (Erickson *et al.,* 2008).

However, formal coach education as a mediated, structured and systematic process has been criticised for a lack of relevance for coaches within their specific contexts (Erickson *et al.,* 2008; Piggott, 2012; Vella *et al.,* 2013; Mesquita *et al.,* 2014). Despite research indicating the inefficiency of formal coach education programmes, sport federations, institutes of higher learning and other educational service providers continue to offer coach education certification and short-course learning programmes. The development of coaching experience is a gradual and developmental process which intersects both formal and informal educational opportunities (Lara-Bercial *et al.*, 2017). Consequently, the development and structure of a coach education curriculum require appraisal to address the disjuncture between theory and practice.

PURPOSE OF RESEARCH

Curriculum design inherently provides a juxtaposition between policy-driven educational context and the relevance of content and assessment practices. The purpose of this research was to develop a model of forward and backward curriculum mapping, as proposed by Hayes (2003) and Shalem (2010).

Forward mapping implies the policy driven (SASCOC) imperatives embedded within the South African coaching framework and the long-term coach development pathway. Policy drives the backward mapping process that is sport federation driven with contextual relevance, curricular objectives and outcomes. This process was discussed with coaches working in the field and outlines the basis of developing a coach education curriculum within a sports federation.

METHODOLOGY

Research design

A four-phase sequential mixed-method design was used for the development of a coach education curriculum, using the forward and backward mapping model (Figure 1).
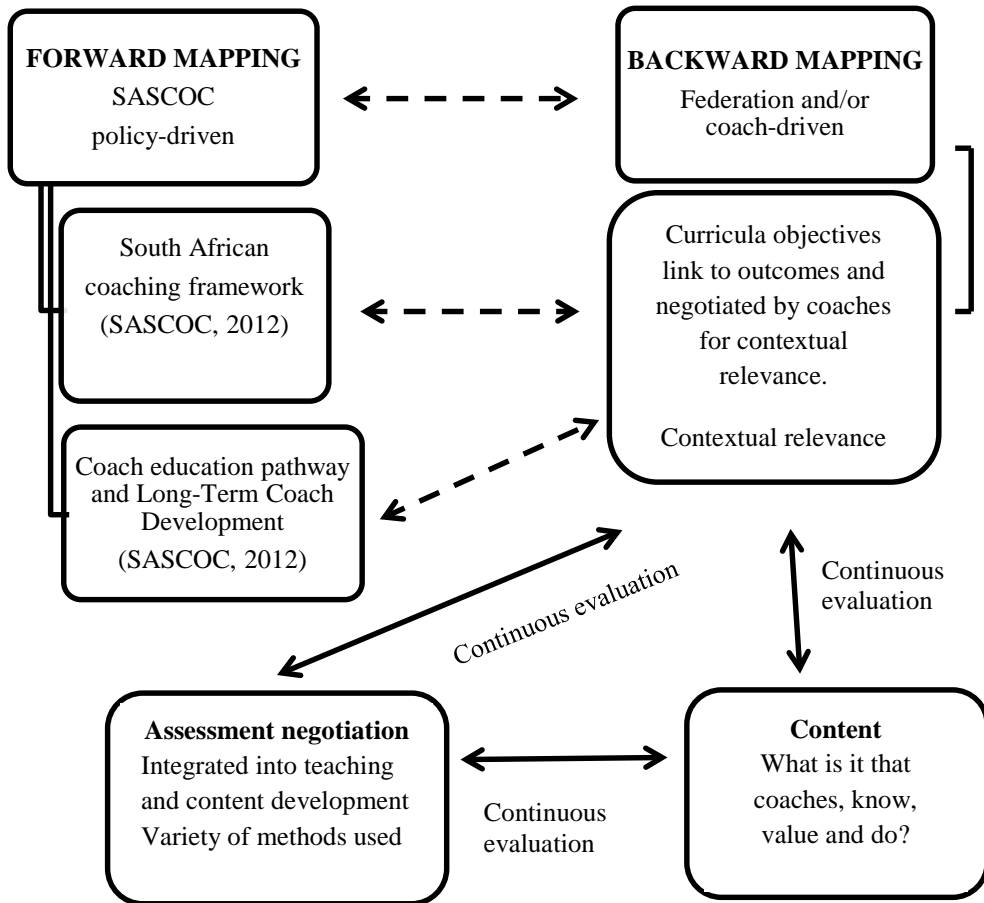

Figure 1. **FORWARD AND BACKWARD CURRICULAR MAPPING FOR IMPLEMENTING A COACH EDUCATION PROGRAMME**
(Morris-Eyton, 2016:74)

The design was case study-bound, with the development of six themed workshops where coaches were consulted on the content relevancy and assessment type. Workshop 1 examined federation specific policy and practice; Workshop 2 principles of training; Workshop 3 long-term participant development and training children; Workshop 4 nutrition, anti-doping and injury prevention; Workshop 5 sport psychology and mental toughness; and Workshop 6

reflective practice. The same pre- and post-knowledge questionnaires were completed by coaches prior to and at the completion of each of the workshops.

Curriculum mapping

A policy-driven, forward mapping and consultative backward mapping process provided the framework for the design of a coach education curriculum (Morris-Eyton, 2016). During the consultative process described by this study, the curricular objectives and outcomes were discussed with the coaches for contextual relevance. The content was driven by what it is that coaches need to know, what they value, and by understanding what it is that they do (Figure 1). Assessment became a mediated space, with continuous evaluation of objectives, content and self-assessment. This allowed for the disjuncture between formal knowledge acquisition and coaching practice to be foregrounded.

The forward-mapping process included the South African Coaching Framework, the primary purpose of which is to guide the provision of education and training for coaches (SASCOC, 2010). The coach education pathway (through the long-term coach development model) provides for the development of competent and skilled coaches with recognition of associated coaching designations done through the sports federations and SASCOC (2010). The designations range from apprentice coach to master coach with associated national qualifications levels (NQF 4-9).

In the forward and backward mapping model (Figure 1), the policy informs the backward-mapping process but is flexible enough for federations to adapt the framework to their contextual requirements. The backward mapping process informed workshop objectives, as part of the content and assessment practices, where the coaches were given a voice to articulate their needs for workshop delivery. Coaches identified their knowledge requirements, preferences for modes of delivery and types of assessment practices (Morris-Eyton & Coopoo, 2014). Using this information, workshop objectives were set and the thematic content for the workshops developed.

Participants

Purposive sampling was used to select coaches from a national data base of a South African sports federation. The inclusion criteria was comprised of commitment to a twelve-month coach education process (including workshop attendance and reflective knowledge implementation) and meet the requisite demographic profile set by the federation (including gender and racial equity, as well as club, provincial and national representation). Based on this, participants availed themselves for this study and 35 coaches participated in the series of six themed formal educational workshops. Ethical clearance was granted from the University of Johannesburg (AEC73/02-2011).

Data collection

The development of the content for the workshops was theme-based rather than framework-driven (forward mapping). This allowed for greater flexibility in providing for all levels of coaching knowledge and experience (Morris-Eyton, 2016). The content was thus bound by the needs of the coaches and not by the rigid approach laid out during the forward mapping process. Content was negotiated by coaches and developed by University subject matter experts.

A pre- and post-workshop questionnaire was completed by participants. The content of the questionnaires (across section A and section B) was the same to determine perceived and

actual knowledge change due to the workshop intervention. Section A dealt with the knowledge coaches felt they had regarding the topics and themes being presented in the workshop. The responses were analysed as 'perceived' knowledge. Section B included various multiple-choice, matching-response and true or false questions. This yielded a more useful reflection of 'actual' knowledge gain.

Self-assessment was the tool used for the workshops, where coaches had the opportunity to understand the assessment process, feel comfortable in completing the assessments and, through a process of reflection, gain personal growth in their acquisition of knowledge and its application to coaching practice. Prior to and at the completion of each workshop, coaches were asked how they felt about completing the self-assessment questionnaire. Reflective practice allowed coaches to have a voice about the content and the benefits they had from attending the workshop and permitted a freedom of expression around the assessment process.

Data analysis

Quantitative data were analysed using SPSS (version 23). Descriptive statistics were generated and where categorical data were captured, cross-tabulations were completed for comparison. Paired sample t-tests and normality tests were conducted for scale data, to compare groups (Palant, 2011). The magnitude of the workshop intervention and the meaningfulness of the group differences (specifically between pre- and post-workshop responses) were calculated using *eta* squared.

Inductive analysis was conducted using the empirical data collected from the pre- and post-workshops reflections. Using Atlas.ti (version 7.0.77) as the tool to develop systematic coding, categories, themes and sub-themes were created. This allowed the coaches' voice to have a jointly constructed meaning. Various coding profiles (utilising the work of Saldaña 2013) were used for synthesising questionnaire responses to gain personal perspectives and insights (both positive and negative) of the experiences of the workshops for the coaches.

RESULTS

Qualitative and quantitative results were determined from the self-reporting questionnaires completed pre- and post-workshop. Frequency tables were generated for each item in the questionnaire, including those in Section A (perceived knowledge that the coaches had) and in Section B (actual knowledge). The tables revealed whether there was a positive or negative movement between the pre- and post-workshop interventions. Positive movement was defined as a shift from 'knowing nothing about' to 'having excellent knowledge' as reported on the five-point Likert scale.

Table 1 (section A) indicates the effectiveness of the education intervention, based on the self-rating of the coaches on the content and themes that were covered in each workshop. This is reflected in the medium and large effect size noted across all workshops, representing the perceived knowledge gain of the coaches. Section B (Table 1) represents the 'true' knowledge gains for the questions dealing with the thematic content. Coaches in workshops 1, 4 and 5 scored higher on the knowledge questions after the workshop ($p<0.05$). The results of workshops 2 and 3 were inconclusive. This could be linked to the scientific nature and the way the content (principles of training, long-term participant development and training children) was presented. Coaches in their reflection of these workshops noted the difficulties they had with understanding the key concepts presented.

The qualitative data collected during the reflection pre- and post-workshop was focused on how coaches felt about completing the self-assessment knowledge questionnaires. After the completion of the questionnaire (during Workshop 1), coaches expressed negative feelings towards the self-assessment. One coach stated that he '*question(ed) my own lack of knowledge*' and another '*felt like a newcomer and need a deeper understanding*' of the content.

Table 1. **PAIRED-SAMPLE t-TEST AND EFFECT SIZE FOR PRE- AND POST-WORKSHOP PAIRINGS ACROSS FIVE WORKSHOPS**

Workshop (WS) (n=participants)		Section A				
		M±SD	t	*df*	p-Value	Effect size (d)
WS 1 (n=28)	Pre Post	3±0.73 4±0.51	-7.37	27	0.000***	0.66
WS 2 (n=24)	Pre Post	3±0.63 4±0.45	-8.24	23	0.000***	0.74
WS 3 (n=25)	Pre Post	3±0.38 4±0.31	- 14.99	24	0.000***	0.89
WS 4 (n=24)	Pre Post	3±0.49 4±0.45	- 10.84	23	0.000***	0.83
WS 5 (n=19)	Pre Post	3±0.41 4±0.33	-8.06	18	0.000***	0.77
Workshop (WS) No. correct answers		Section B				
		M±SD	t	df	p-Value	Effect size (d)
WS 1 (n=28) 7 correct	Pre Post	5±2.23 6±1.17	- 2.33	27	0.030**	0.160
WS 2 (n=23) 6 correct	Pre Post	3±1.10 4±0.92	- 1.88	22	0.730*	0.130
WS 3 (n=30) 11 correct	Pre Post	5±1.40 5±2.20	0.42	29	0.680*	0.005 negligible
WS 4 (n=21) 10 correct	Pre Post	5±1.33 6±0.97	- 5.44	20	0.000***	0.590
WS 5 (n=19) 10 correct	Pre Post	7±1.40 8±1.27	- 2.46	18	0.024**	0.250

p-Value: * <0.05   ** <0.025   *** <0.000   Effect size: 0.2=small   0.5=moderate   0.8=large
Section A=Self-reporting on a five-point Likert scale   Section B= Variety assessment type questions

As the workshops progressed, there was a shift towards more positive comments from coaches regarding their self-assessment. This was enhanced with opportunities at subsequent workshops for coaches to receive clarification about concepts and questions from the previous workshop. This feedback process allowed coaches to '*enjoy the self-assessment*' and it was a

tool for highlighting '*what it is I don't know*'. Coaches started valuing the self-assessment process as a tool for learning and for developing self-reflective practice within their specific coaching context. Coaches could '*see what it is that I have learnt*' and '*assess how much (they) had learnt*'. At the end of the workshops, one coach reflected on how they had now begun '*to understand the value of assessment*'.

DISCUSSION

The development and implementation of a formal coach education framework is not without its challenges for sport federations and their members. Formalised structures tend to be inflexible, with standardised curricula that have little relevance to and impact on coaching practice. This is supported by the work by Piggott (2012), Vella *et al.* (2013) and Mesquita *et al.* (2014). Rarely are coaches afforded the opportunity to be included in a backward mapping process that involves negotiation about outcomes, educational content and assessment (Morris-Eyton & Coopoo, 2014). Content relevance and usability (Nelson *et al.,* 2013) is of paramount importance in curriculum design, as coaches are eager to action knowledge for implementation within their own contexts.
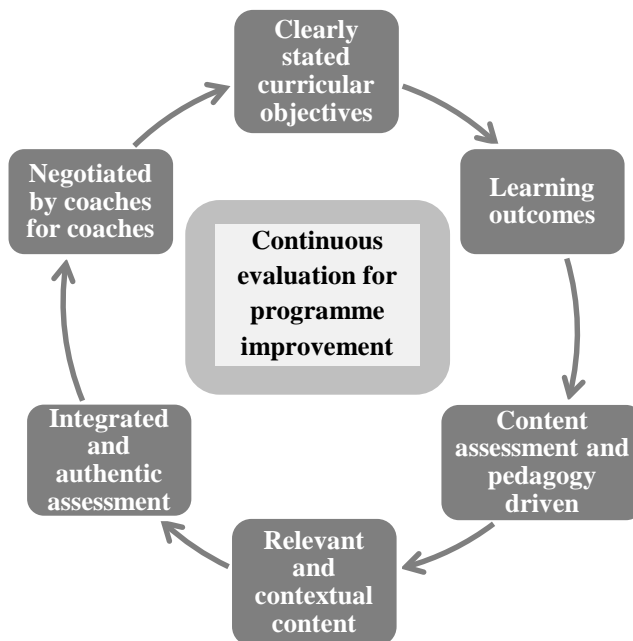

Figure 2. **BACKWARD MAPPING CURRICULA PROCESS FOR IMPLEMENTATION IN A COACH EDUCATION FRAMEWORK** (Morris-Eyton, 2016:175)

Mapping and designing a coach education curriculum are primarily driven by government-identified priorities and policy frameworks, such as the South African Coaches Framework (SASCOC, 2012; North *et al.,* 2019). The forward-mapping process (Hayes, 2003) situates itself within the contested and political educational space, which may impede backward mapping alignment (performed by the federations) if a de-contextualised and functionalist approach is adopted (Shay *et al.,* 2016). Backward mapping is consultative in nature (Hayes, 2003; Shalem, 2010) and coaches were given the opportunity to become involved in the design, development and presentation of workshop curricular activities, as well as preferences regarding assessment practice (Morris-Eyton & Coopoo, 2014). By implementing this type of process in curriculum design and development, the needs of the coaches were addressed. This process is explained in Figure 2, where the coaches became key proponents in their own development of knowledge, learning and assessment.

Critiquing the backward mapping process, curriculum objectives and learning outcomes required foregrounding throughout the series of workshops. Since the workshops were theme-based (which did not allow for a pedagogical progression of knowledge) coaches found some of the scientific concepts presented difficult to understand, thus eroding their confidence (related to the inconclusive effect size of workshops two and three). Further attention is required for the additional scaffolding of these concepts (a pedagogical and assessment issue) relating back to the curricular objectives and learning outcomes. Sequencing, structure and validity of knowledge necessitate careful consideration in the development of curricular design (Shay *et al.,* 2016).

Relevant and contextual content is formulated through the consultative process allowing coaches to have an active role in the design, development and implementation of their coach education pathway. Coaches can then ultimately claim ownership for a system that will benefit and enhance the quality of coaching that may lead to improved athlete performance (Morris-Eyton, 2016).

Validating and testing the robustness of the curriculum design model is required across sports federations and within different contexts. Whether the degree of flexibility within this model allows federations to embrace a less traditional approach to the implementation of formal education for coaches remains to be seen.

CONCLUSION

This study provides a framework for the implementation of a coach education curriculum utilising a forward and backward mapping process. This allows for coaches to have a voice in shaping a contextual and relevant curriculum with federation identified education stakeholders. Sport federations have the opportunity to test the robustness of this model when developing curricula. This will ensure buy-in from coaches for inductive implementation. However, supportive government policy, institutional frameworks and the availability of resources are additional requirements for successful implementation of coach education frameworks. Acknowledging the contribution sport coaching can play within the health and social agenda of society, will play a pivotal role in supporting and improving coach education and practice (North *et al.,* 2019).

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