



UKCC Impact Study: Definitional, Conceptual and Methodological Review

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Acknowledgements

This report provides an important starting point for understanding the impact of coach education on coaching practice. The emerging nature of this area meant that at times the discussion between supplier and client was lively but always good natured!

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Summary

Introduction

1. The United Kingdom Coaching Certificate (UKCC) is an endorsement framework for sport-specific coach education programmes, within which award programmes and their supporting structures are Kitemarked against a set of standardised UK-wide criteria that reflect a number of pre-defined underlying principles. The need to bring change to coach education was identified in the government's Coaching Task Force report, in which significant limitations of quality assurance, comprehensiveness and variability characterised the existing ad hoc system.
2. sports coach UK was tasked to design, develop and implement a comprehensive UK-wide coach education system. This has been a lengthy process of consultation, research and collaboration between relevant organisations. The impact on governing bodies of sport is evident in a revised framework of certification, improved arrangements for quality assurance through awarding bodies, improved learning resources and learning programmes, and a more standardised experience for candidate coaches. A number of sports have been engaged in a pilot programme and the framework is being rolled out more generally in the UK from January 2007.

Aims and Objectives of this Report

3. sports coach UK intends to conduct an impact evaluation of the UKCC over an approximate four-year period. It will commission research to describe and evaluate the impact of the UKCC on coach education provision and on coaching practice. However, there were a number of contributory factors that suggested that an initial study was required in which the rationale, conceptual assumptions, methodological challenges and recommended impact evaluation methodologies should be established. The UKCC is a large-scale UK-wide intervention involving a significant departure from previous practice for many governing bodies of sport. The inception phase was lengthy and complex, and the whole initiative remains in a developmental, evolutionary phase. In addition, the UKCC was being designed in a context in which there was an absence of consensus or evidence around some fundamental issues: for example, the relationship between coach education and coaching practice and methods for evaluating effectiveness.
4. It was appropriate, therefore, to commission a first stage to the impact evaluation that would be a definitional, conceptual and methodological review and scoping paper. The overall purpose is to bring clarity to the concepts on which the UKCC is founded, and to provide a methodological direction for the subsequent impact evaluation.
5. The objectives for this first stage review were to:
 - provide a consensual conceptual framework within which the project can be developed
 - identify the rationale/model for change underpinning the UKCC, in order to establish appropriate research design

- advise sports coach UK on best practice in large-scale intervention impact studies, and to propose an appropriate methodology
- establish the basic parameters and scope of the impact study, including the research aims and objectives.

UKCC Structures and Philosophies

6. The UKCC is an endorsement framework for coach education within which sport-specific award programmes and their supporting delivery infrastructures are Kitemarked against a set of standardised UK-wide criteria. The framework is built around a set of UKCC principles that are incorporated into endorsement guidelines provided for governing bodies of sport.
7. The key principles for the UKCC are:
 - coach and participant-centred
 - based on National Occupational Standards
 - vertical and horizontal progression
 - quality-assurance mechanisms
 - flexible in design and delivery
 - centrally coordinated
 - stakeholder ownership
 - based on existing good practice
8. These principles are evident in:
 - learner-centred design and delivery
 - integrated generic and sport-specific content
 - standardisation of learner experience
 - a flexible four/five-level structure with vertical and horizontal pathways
 - an increased emphasis on delivery ('how to') skills
 - coaching competences defined by role function needs, rather than level of athlete performance
 - a national system of quality assurance, mediated by awarding bodies, and an endorsement process.
9. The intention was to devise a more cohesive and integrated coach education system in which there would be parity of learning experiences across sports. Moreover, central to the endorsement process was the development of programmes based less on sport-specific technical knowledge and more on learner-centred approaches that would lead to coaches being more effective decision makers and delivering more athlete-centred coaching practice.
10. The UKCC does not exist in isolation from other developments in sports coaching in the UK. Enhanced coach education is an essential feature of emerging professionalisation, and the continuing evolution of the UKCC reflects an increased reliance on research and evidence-based policy making. The establishment of the UKCC is likely to lead to greater integration of further and higher education into coach education.

Rationale for Employing a Logic Model Approach to Impact Evaluation

11. In large-scale interventions, such as the UKCC, it is difficult to demonstrate cause and effect in impact evaluations or to disentangle the contributory factors, particularly when the intervention is complex, ranges across many agencies and is facilitative (that is, has a degree of flexibility in design and delivery). The logic model provides a means of establishing a rationale for the intervention and for arguing 'how and why the intervention should work'.
12. A logic model describes the key features of a process or intervention; that is the variables, stages, context and, perhaps most importantly, the relationships between them. A logic model is often described as a change model, in that it describes how the change has been designed into the initiative or intervention. The UKCC is very evidently a process of change, indeed a 'step change' in provision and structures, with an incremental impact on practice over time.
13. In relation to the UKCC, the logic model properties of identifying fundamental principles and restating assumptions was an opportunity to bring together the 'thinking' that had shaped it. The models also create a framework for identifying likely problems in operationalising the UKCC: this is obviously important in interpreting and analysing the evidence of impact. In the context of the UKCC, it was particularly important to appreciate the relationship between the outcomes of coach education and the resultant coaching practice. Insofar as the UKCC is a 'root and branch' change to practice, it was valuable to have a strategic overview of the change process. The logic model has some presentational advantages in describing the intervention in graphical terms, although the complexity of the UKCC itself created some challenges in presentation.
14. The value of the logic-model approach is that it provides a mechanism for bridging the gap between intentions and impact and, in doing so, creates a basis for an evaluation model. Identifying the key stages and linkages in the UKCC highlights the points at which it would be appropriate to gather evidence to substantiate a judgement about its impact. For this reason, a logic-model approach was employed to describe the UKCC, to identify the key stages and linkages, to identify those factors to take into account in its implementation, and to provide a rationale for the impact evaluation methodology adopted.

UKCC Logic Models

15. The UKCC logic models begin by identifying the desired outcomes and the features of coach education that can be changed and will lead to (or at least contribute to) these outcomes. The intervention activity (coach education), both at the level of the system and the individual, is then designed and implemented. Decisions are taken within an awareness of the contextual factors identified in the model. The intervention activity leads to a series of short, intermediate and longer-term outcomes that are interdependent.
16. The outcomes for the UKCC are derived from the Coaching Task Force report and perceived weaknesses in the current system. Improved coaching practice is the intermediate outcome and this, in turn, will contribute to wider sporting outcomes, such as increased standards of performance and

greater recruitment and retention in sports participation. These sporting outcomes also contribute to more general benefits, in terms of health, quality of life and national esteem.

17. The intervention itself – the UKCC – has been designed within a set of guiding principles and is accompanied by an implementation strategy. The intervention is based on the research evidence available, consultation with stakeholders and evidence of current practice, and is a comprehensive change in coach education practice. The changes in award structures, quality-assurance procedures, workforce training and learning programmes are designed to result in a consistent and more assured 'output' of coaches at all levels, who are more capable of implementing desired coaching practice. At each of these stages, the model identifies the likely barriers to effective implementation; for example, the incentives and reward structure and sports' delivery capacity.
18. The 'system output' (number of courses, throughput of coaches) will produce coaches whose competences have been shaped by the learning programmes and associated experiences. These intervention outcomes will then impact on coaching practice. The relationship between coach education and coaching practice is not direct and the logic models identify the factors to be taken into consideration in determining and interpreting the scale of the changes in coaching practice.

From Logic Models to Impact Methodology

19. The logic models describe a series of stages and linkages that point to the most appropriate methodology for carrying out an impact evaluation. There is a generic process that has been followed in the recommendations for an impact study of the UKCC. These key stages identify the questions that need to be addressed in order to make a judgement about its effectiveness.
20. In simple terms, these are:
 - Has the UKCC been delivered as intended, both in scale and quality?
 - Has the intervention (the learning programme) resulted in change to the coaches' competences, and which are the most and least affected?
 - Has there been a change in coaching practice, and what has changed most and least?
 - Can the changes be attributed to coach education?
 - Have there been any changes to the environment that have acted as facilitating or constraining factors?
21. The models make it clear that the linkages are weaker as the reach of the intervention is extended into wider outcomes. These outcomes should not, therefore, be measured directly, although it is important to canvass stakeholder opinions about the contribution of the UKCC. Emphasis should be placed on coaching practice, for which there are sound arguments (albeit not yet a wealth of research support) for the influence of coach education.
22. There is further support from the logic models for an 'impact against target practice' approach, rather than 'a change from existing practice' approach. This is occasioned by the scale of the intervention and the limited knowledge and perceived variability in existing practice. This approach also suggests that the recommended research studies should focus on those

coaches who have recently experienced UKCC-endorsed education and training.

23. As a change model, there is also some support for methodologies that incorporate elements of action research, of 'before-after' design where possible, and variety/triangulation to obviate the complexity of the intervention effects.
24. The UKCC is a change process that is recognised to impact over time, and it is reasonable, therefore, to move from a focus on establishment to intervention outcomes and, thereafter, to the coaching practice intermediate outcome. This phasing would be evident in the scheduling of the recommended research studies. However, the period of the impact study, for which this report is a precursor, is relatively limited in the context of such a major (and likely incremental) process of change. It is therefore recommended that the different research studies should begin immediately, partly to benefit from the 'before-after' design.
25. There is a very clear message that, in the initial stages of an intervention, it is vital to ensure that the intervention is being delivered as it was intended to be. This 'fidelity' of implementation is important in a 'consequential model'; that is where the eventual impact is determined by the level of desired change in the previous stages. For this reason, there is a strong emphasis on process monitoring.

The Proposed Methodologies

26. The report goes on to provide details of the proposed methodologies and how they should be scheduled. The overall approach is characterised by:
 - Phasing studies over the four-year period, to enable time for change to take effect and an element of before-after design to be incorporated
 - favouring procedures that will result in more easily transmitted headline messages to key stakeholders
 - incorporating case studies to preserve the richness of practice
 - attempting to reduce complexity (multi-level, multi-variable) by adopting a 'representative indicator' approach.
27. Four strategic research questions are identified. These are subsequently expanded into research questions for each study. The strategic questions are on the extent to which the UKCC has:
 - been implemented successfully (ie in relation to intentions)
 - been effective, ie has resulted in:
 - the intended coach education outcomes (coach competences)
 - improved standardisation and parity of experience in coaching qualifications and coach education (system efficacy)
 - improved the quality of coaching practice
 - contributed to strategic coaching developments (ie professionalisation and other sport policy objectives)

28. The report recommends six research studies to provide the necessary evidence with which to carry out an impact evaluation.

Research Study 1

Process monitoring of UKCC implementation: Intervention outcomes at the system level

This study is a comprehensive monitoring of the implementation of the UKCC. Evidence will be gathered from an annual survey of governing bodies of sport, from documentary analysis and from observation of coach education courses. The survey is focused on the structural/system elements of the UKCC and the characteristics of the throughput of coaches. The observations, using an observation inventory, will evaluate elements of the learning programmes.

Research Study 2

Evaluation of coaches' competences post-UKCC: Intervention outcomes at the individual level

This study measures the outcomes of coach education via a self-reported opinion questionnaire on the coach's competence in selected coaching skills. The survey (across levels and sports) will be supplemented by structured reflective logs. The logs will be issued to coaches pre-course and will chart the change process in two specific competences.

Research Study 3

Evaluation of changes in coaching practice: athletes' perceptions UKCC intermediate outcomes

This is an athlete survey of coaching practice. The Coaching Behaviour Scale for Sport will be used to investigate changes in coaching practices over time. Surveys will be repeated each year on a sample of sports and with coaches operating with responsibility in a club environment. Athletes will be working with coaches who have had recent experience of UKCC-endorsed programmes.

Research Study 4

Evaluation of change in coaching practice: case studies UKCC intermediate outcomes

This is a qualitative approach to gathering evidence of changes in coaching practice. The case studies will be based on an agreed portfolio of evidence of practice, supported by semi-structured interviews. There will be a rolling programme of cases, with half of them repeated in subsequent years.

Research Study 5

Survey of opinions of key change-agents and stakeholders UKCC intermediate and sport outcomes

This study gathers evidence on the opinions of a range of stakeholders about the implementation of the UKCC and its perceived impact on the coaching and sporting 'system'. A variable-scoring survey instrument will be used to canvass views in years one and three, with a follow-up series of semi-structured interviews in years two and four.

Research Study 6**Monitoring of the coaching environment****Synthesis and contextualisation of impact evaluation evidence**

This element of the research has two parts. The first involves a regular monitoring programme of the changes in the environment (policy, documentation, key agencies, research literature) in order to provide context for interpreting findings. The second involves the synthesis of the findings of the discrete studies as they emerge and their incorporation into interim and overall reports on the impact of the UKCC.

1.0 Introduction

- 1.1 The United Kingdom Coaching Certificate (UKCC)¹ is an endorsement framework for sport-specific coach education programmes, within which award programmes and their supporting structures are Kitemarked against a set of standardised, UK-wide criteria that reflects UKCC principles. The UKCC is intended to make a 'step change' to the UK coach education 'system', and this revitalised education, training and qualifications system forms part of a more strategic effort to professionalise sports coaching.

- 1.2 The need for a new approach to coach education and qualifications was highlighted by the government's Coaching Task Force²:

Coach development in the UK is variable in quantity and quality. Whilst a great deal of good work relating to the education and development of coaches can be identified, there is no overall leadership, direction, quality assurance and the whole area is under-resourced. As a result, the UK has an ad hoc system that allows organisations and individuals to choose whether to opt in or out. Consequently, coach education and qualification schemes vary enormously in terms of the quality of content, delivery and assessment both within sports and across sports (page 8).

As a result of the Coaching Task Force report, the Department of Culture, Media and Sport established a Coach Steering Board, which then charged sports coach UK with developing a new system for coach qualifications, referred to as the United Kingdom Coaching Certificate, to address these weaknesses.

- 1.3 sports coach UK's initial remit for the UKCC was as follows:
- 1.3.1 Develop a national certificate of coaching at five levels against the national standard to be adopted by all governing bodies of sport eligible for receipt of public funds.
 - 1.3.2 Support governing bodies of sport to develop their systems in line with the 'national standards' for coaching and to quality assure the process. The delivery of training will be through the governing bodies of sport, further education, higher education and the University for Industry.
 - 1.3.3 The UKCC framework will be centrally driven, but will allow governing bodies of sport ownership and control of technical content and a range of options in relation to management and delivery (paraphrased from *The Coaching Task Force – Final Report* page 9).
- 1.4 The endorsement of coach education programmes would be judged against agreed criteria, including:
- a transparent endorsement process for coaching qualifications
 - the development of appropriate resources to deliver effective and high-quality coach education programmes

¹ Originally entitled the National Coaching Certificate

² Department for Culture, Media and Sport (2002) *The Coaching Task Force – Final Report*, London, July.
http://www.culture.gov.uk/global/publications/archive_2002/sport_coach_task.htm

- quality-assured administration and management structure of coach education provision provided by sports
- quality-assured training provision for coach educators and other personnel.

The development of the UKCC is supported by a number of key documents. These are the:

- Endorsement Criteria – the structures and resources required by coach education programmes in order to obtain UKCC endorsement
- Qualification Specifications (Guidance Notes), which set out the minimum requirements for qualifications, learning programmes and materials.

1.5 The development of the UKCC has been guided by a number of broad aims. These can be summarised as follows:

1.5.1 Replacement of the previous ad hoc coach education system (pre-UKCC) with a consistent, structured and resourced coach education system, including separate and defined roles for the following individuals and organisations:

- coaches
- coach educators (tutors)
- trainers
- assessors
- verifiers
- mentors
- approved training centres
- awarding bodies
- endorsement panels
- endorsement agencies.

1.5.2 Development of consistent and robust qualification specifications, learning programmes and resources based on good-practice principles from emerging coach practice and the wider education sector. It rejects the 'teacher-centred' approach in favour of 'learner-centred' approaches, 'problem-based learning' and an applied and integrated approach to delivery. The UKCC aims to promote 'athlete-centred coaching practice' and 'learner-centred coach education'.

1.5.3 The UKCC focuses on coaching as a critical thinking activity – enabling and empowering coaches to make effective decisions. The emphasis is placed on the 'how' (eg communication), 'what' (eg technical/tactical) and 'why' of coaching practice in learning programme design, rather than simply on 'what' (which was perceived to be the more traditional pattern). The UKCC allows for horizontal and vertical performance and developmental coaching pathways to occur.

1.6 There were 31 sports invited to participate in the development of the UKCC, divided into three areas of priority (six fast track, 15 phase two, and 10 phase three)³. Each sport has one lead officer, and a national UKCC source group (including representatives from all the home nations).

³ Fast-track sports (undertaking pilots and receiving intensive support) – athletics, cricket, rowing, rugby union, swimming and triathlon. Phase-two sports (receiving one-to-one support from sports coach UK) – badminton, basketball, canoeing, cycling, equestrian,

- 1.7 It is sports coach UK's intention to conduct an 'impact study' of the UKCC over an approximately four-year period. sports coach UK intends to commission research to describe and evaluate the impact of the UKCC on coach education provision and coaching practice. However, given the importance of this work to sports coach UK objectives, the potential conceptual and methodological complexities involved, the level of investment, and timescales, it was decided to approach the work in two parts. This first stage would be a definitional, conceptual and methodological review and scoping paper, and the second a four-year UKCC impact study (subject to the outcomes of stage one).

The significance of the impact study was evident, partly in the context of the intended scale of the effect on the coach education system, partly as a reflection of a desire for evidence-based policy implementation, and partly as an accountability measure for the substantial investment following from the work of the Coaching Task Force.

- 1.8 John Lyle Consulting (JLC) was commissioned to undertake stage one of the impact study. JLC supports entirely the need for this initial phase of the impact evaluation project. One of the characteristics of evaluations of national initiatives is that the:
- scope and coverage of the evaluation has not been sufficiently well defined in advance
 - logic or change model underpinning the work of the initiative has remained taken for granted.

Not only is this stage required on methodological grounds, but also, sports coaching itself is at an early stage of consensus building around its fundamental concepts. It is also important to acknowledge the coach education context within which the UKCC will be (and is already being) established. Current coach education provision is characterised by its lack of uniformity, varied traditions and autonomous development, despite several initiatives to bring reform to the 'system'. This will itself present a number of challenges for establishing baseline data and potential comparative methodologies.

Purpose of Project

- 1.9 The objectives for this stage 1 review are to:
- 1.9.1 establish the basic parameters and scope of the impact study, including the research aims and objectives
 - 1.9.2 provide a consensual conceptual framework within which the project can be developed
 - 1.9.3 identify the rationale/model for change underpinning the UKCC, in order to establish appropriate research design

football, golf, gymnastics, hockey, judo, netball, rugby league, squash, table tennis and tennis. Phase-three sports (implementing UKCC but receiving only workshop and documentary support from sports coach UK) – angling, archery, bowls, karate, mountaineering, movement and dance, orienteering, rounders, sailing and volleyball.

- 1.9.4 advise sports coach UK on best practice in large-scale intervention impact studies, and to propose an appropriate methodology.
- 1.10 The key purpose of this review is to identify and detail a methodology for the impact evaluation. At the commissioning stage, it was evident that a number of challenges for the impact evaluation had already been recognised and acknowledged:
- 1.10.1 The concerns raised by the client reflect many of the research concerns expressed by academics specialising in this field, and reinforce the need for conceptual clarity. A logic/change model will at least partly address a number of the questions.
- 1.10.2 An immediate issue for all evaluations of impact for initiatives is the period of time over which they will be conducted. This is likely to be a significant issue for the UKCC, partly based on the length of time during which the intervention will have been in place, and partly because of the incremental implementation of the UKCC.⁴
- 1.10.3 The (entirely appropriate) emphasis on coaching practice and effectiveness raises very significant methodological issues, and 'stretches' the existing state of knowledge and research in this field. The fundamental question about the impact of coach education on coaching practice is one that the review may demonstrate not yet to be addressed satisfactorily.
- 1.10.4 The delineation of the impact evaluation method is quite rightly being determined at the onset of the UKCC. At the same time, it has to be recognised that (notwithstanding the pilot programmes) this is very much the establishment phase. It is likely that a strong emphasis on process monitoring and evaluation will be necessary, not least to ensure that the UKCC is being delivered as planned, both in scale and quality.
- 1.10.5 The impact evaluation will take place as the UKCC 'unfolds', and over an extended period of time. It is appropriate, therefore, that the evaluation process should adopt an 'action research' approach in its second stage, in order that emerging findings can be acted on immediately.

Methodology

- 1.11 Table 1 describes the processes through which the evidence for the review has been gathered. The methodology has been amended a little as the review has progressed, and in agreement with the client. In broad terms, the methodology was carried out as described in the tender, but with the following factors taken into account:

⁴ This concern is less to do with the establishment and implementation of the new procedures and programmes than the many stages, components, and geography and progression aspects of the overall scheme. In some ways, the all-embracing nature of the UKCC will provide impact challenges that a smaller-scale change might not provide. Similarly, the outputs of the revised coach education programmes should be immediately evident, whereas the impact on coaching practice (partly dependent on the scale of the throughput plus continuing professional development) is likely to be more incremental.

- 1.11.1 The interview sample was extended somewhat from the original proposals, in order to 'capture' the opinions of a wider range of sports coach UK personnel, and others who had been involved in the design process.
- 1.11.2 The amended Delphi Technique was changed to a simple feedback-enriched set of proposals for the content of the lexicon to accompany the UKCC. This was a result of a very disappointing response from the circle of 'experts' in the first distribution.⁵
- 1.11.3 Following discussions with the client, it was decided that primary data collection for the analysis of the current coach education system (the pre-UKCC system) was not required, and that it need not form part of the review. However, it was recognised that some form of pre-post⁶ evaluation would be part of the impact evaluation and that the recommendations related to this would include suggestions for the structure of this comparison.
- 1.11.4 The coach education position statement is based on a review of the literature. This has taken place and the details of how this was carried out are given in more detail in a later section. The review of literature is perhaps more interpretive than originally conceived, in the sense that it could not simply be a recounting of major findings, and required a wider range of sources. This was occasioned by the relative absence of rigorous studies of the implementation and impact of coach education programmes, and the fact that an extensive review of the literature had recently become available.
- 1.12 The presentation of the review has been designed to reflect the outputs required by the client and to attempt to provide self-contained sections that are valuable in their own right. Broadly, the review task has been interpreted as identifying and describing the rationale for the UKCC and using this to devise an appropriate impact-evaluation methodology. The rationale might be usefully described as the logical (or otherwise) basis for the UKCC in design and delivery.⁷ The purpose of the rationale in this instance is to provide the basis for an impact methodology to evaluate the scale and significance of the change effected by the implementation of the UKCC framework.

⁵ The draft proposals were circulated within the extended Coaching Research Group brought together by sports coach UK. Given this link to sports coach UK, it was anticipated that individuals would be likely to respond. However, the list of definitions that was eventually circulated was considerably larger than first envisaged, and this seemingly time-consuming task may have been offputting.

⁶ It was felt that the 'post-UKCC description' would inevitably describe intentions, and it would be more appropriate that the actual implementation of the UKCC be monitored and evaluated as part of a process-monitoring exercise to determine the 'fidelity' of practice to intentions.

⁷ In relation to the UKCC, this might be portrayed as a list of questions: what is it, how and why is it designed as it is, what is it intended to achieve, and how likely is it to achieve its stated outcomes?

Table 1: Elements of the Review Methodology

Project Aim	Constituent Elements	Methods to be Adopted	Outputs
Definitional and conceptual review	1. Definitional framework	1. Amended Delphi technique ⁸ 2. Literature review	Lexicon of terms
	2. Research aims and questions	1. Stakeholder interviews 2. Literature review	Framework of research aims, objectives and questions
	3. Coach education position statement	1. Literature review 2. Comparative practice	Position statement
	4. Logic/change model	1. Literature review 2. Stakeholder interviews	Logic/change model
Review and clarification of methodology	5. Impact study	1. Literature review	Methodological proposals
	6. Coaching practice	1. Literature review 2. Stakeholder interviews	Methodological proposals
Revised proposal for UKCC Impact Study Phase 2	7. Integration of the above elements		Detailed project proposal
			Full summary report incorporating the above, with recommendations

⁸ Defined as gradual refinement of definitions, using expert feedback.

1.13 The Kellogg Foundation suggests a simple approach to the evaluation process: develop a basic logic model; expand the basic model to explore and explain the theory of change that describes the rationale for the intervention (based, in this case, on analysis of interviews and documentation); and use the first two stages to inform thinking about an impact evaluation plan.⁹ This simple approach has guided the structure of the review. Following this introduction, the review is structured in the following way:

1.13.1A description of the rationale for the UKCC, its underlying philosophy, and its component parts.

1.13.2A graphical description of the UKCC logic model and change model.

1.13.3A short review of the literature related to the design and evaluation of a coach education system, with implications for the UKCC.

1.13.4A proposed methodology for the impact evaluation.

The Change Process

1.14 The implementation of the UKCC has been a very significant departure from previous practice and has involved changes in regulations, capacity and ethos. Such an extensive process has brought with it a number of challenges, and it is important to be aware of the nature of the change process. The change process itself is important and forms part of the impact study. This is because the characteristics of the change process (intentions, scope, design, implementation, procedures) influence the likelihood or scale of the impact of the UKCC on outputs and outcomes. A central feature of the likelihood of change is the 'distance' from existing practice, ie the extent to which the new practice requires significant change. Initially, significant change at a national level may experience resistance in local practice if the change is large in scale and lacking in ownership/conviction. Inevitably there will also be straightforward inertia within the system.

1.15 The degree of change also has to be evaluated for:

- its closeness to intended targets
- the time and financial costs involved
- the 'effect size' of the change on the relevant outcomes, ie the level of positive change in the outcomes for the resources invested in that change.¹⁰

1.16 There is also likely to be an element of 'system instability'. Indeed, it could be argued that this is being experienced at the time of this study by national agencies and governing bodies of sport. Although change is transformational at the system level, the implementation process will have some incremental characteristics (particularly at a local level) and this may

⁹ See the Kellogg Foundation publication *Logic Model Development Guide* (2004, www.wkkf.org) as a valuable guide.

¹⁰ There is also an element of 'political' judgement involved in evaluating change. The notion of 'effect size' is a methodological concept that would be difficult to substantiate in very large-scale complex interventions. This involves a judgement of which changes would make the most impact. Judgement is also made more complicated by the difficulty of setting detailed targets for change.

delay the impact. The need for process monitoring is partly driven by the need to assuage the fear that commitment to the change process may be more evident in design than delivery.

- 1.17 The evaluation of the change process will also consider those who are deemed to be key change agents.¹¹ These might include sports coach UK, SkillsActive, funding agencies, coach education directors, governing bodies of sport, source groups, awarding bodies, the coach education workforce, and the endorsement panel. Although these agents play different roles, the list is extensive (not surprising for a national initiative) and provides some potential for challenge in communication, ownership, coordination and consensus. The impact study should collect the views of the major stakeholders on the implementation and impact of the UKCC.¹²
- 1.18 It is possible to identify general factors in the evaluation of the likelihood of change having a positive impact. Table 2 identifies these factors. This list of factors, or a similar one, will be useful in determining the likely impact of the UKCC, and also form a valuable checklist for the UKCC scheme managers.¹³ These change principles should be incorporated into process monitoring of the UKCC, and based largely on stakeholder interviews.

Table 2: Change Factors Influencing Positive Impact

Change Lacks Impact Because:	Focus Required
change is interpreted as an end goal, rather than a process	Express change as strategic objectives and targets in the modifiable variables that are necessary to bring about the desired changes. Identify the result of failure to develop intermediate targets.
of the absence of a clear vision	Ensure that the vision (and the benefits) are promoted. Implications of change should be explained.
goals are set too far into the future	Set short-term targets (and describe how longer-term goals are dependent on these).
of inertia and risk aversion (legacy of previous change experience)	Explain limitations/weaknesses of existing circumstances. 'Convert' and incorporate key change agents.
of failure to attack fundamental causes	Be clear about the barriers. Ensure that the major focus of change is on 'impacting' factors.
of resistance from workers/volunteers	Anticipate and pre-empt resistance. Provide resources and support mechanisms.
of lack of preparation and training for employees/volunteers	Maintain attempts to build capacity, rather than performance, in order to cope with continual change. Invest in training programme.
of disregarding the reward/incentive culture	Ownership may be a mantra, but is not enough. Deal in individual benefits (and be aware if there is an absence of incentive).
of emphasis on quick-fix options.	Courage (and political will) for longer-term solutions – create short-term wins for political consumption and motivation.

¹¹ These change agents might also be found to be barriers to successful change.

¹² A similar exercise was carried out on the initial establishment phase by MORI for sports coach UK.

¹³ Despite an obvious temptation to begin this analysis immediately, the analysis should form a part of the second phase of the impact evaluation. Nevertheless, this report in itself may provide some insights into those factors that should be given most attention.

- 1.19 Change is also dependent on leadership or change style (and complicated by the distinction between individual/personal leadership and instrumental/political direction). Styles can range from the facilitative to the enabling: educative and communicative, collaborating and participative, intervening, directing, and coercive/edict.¹⁴ These are not necessarily considered to be good or bad, but to be evaluated in their context. For example, in relation to the UKCC, what is the scale of the problem, how important is the result/outcome, is this a localised or a national issue, how loose is the system that will effect the change, how cohesive are the stakeholders, do the resources for change already exist? Each of these factors might require a different approach to change.
- 1.20 Difficulties with assessing and evaluating the impact of intervention programmes have prompted consideration of 'theories of change' and 'logic models' as a mechanism for explaining, predicting, understanding and defending a cause-and-effect relationship between the intervention and the intended outcomes.

Theories of change might be better summarised as a 'rationale for change' or a 'front-loaded appraisal process'. The idealistic position is that the rationale for change should be identified at the outset. It is argued that evaluation then becomes more effective because the focus for evaluation is more evident and impact/causal attribution has already been argued. This suggests the need for a touch of realism and an acknowledgement of likely 'degrees of success'. This juxtaposition of investment and impact evaluation would be a change of practice and might lead to initiatives becoming more difficult to justify in advance!

- 1.21 Weiss¹⁵ describes a 'theory of change' as simply an explanation of how and why an initiative should work. It can also be described as 'a systematic and cumulative study of the links between activities, outcomes and contexts'. The benefits are that, if used as a starting point for the design and evaluation of an intervention, it can focus the planning and implementation, identify data-collection points and reduce issues of impact by gaining early agreement between stakeholders. The theory should be plausible, do-able, and testable.

Interestingly, it is suggested that competing theories should be articulated in order to avoid subsequent misunderstandings. In the context of the UKCC, this would mean identifying and arguing for and against the proposals outlined using the existing research and theoretical development (to the extent that they exist).

¹⁴ Note that these comments refer to the change process and not to desirable coaching styles. The issue here is how 'directive' the lead change agencies need to be to bring about the desired state of change.

¹⁵ The references and content of this paragraph and the principles behind the 'theories of change' approach to evaluation are described on the Aspen Institute website (<http://www.aspeninstitute.org/>). Building Knowledge and Community Change by Auspos and Kubisch (2004, Aspen Institute) is an illustration of incorporating theories of change in evaluations of complex interventions. The Community Builder's Approach to Theory of Change by Anderson (2005, Aspen Institute) is a practical but useful guide. More background can be obtained from www.theoryofchange.org.

- 1.22 The need to provide a rationale for objectives, activities, methods, outputs and outcomes is unassailable. Based on the Kellogg Foundation¹⁶ guidelines, the process is simple and has influenced the structure of this review:
1. develop a basic logic model
 2. expand the basic model to explore and explain the theory of change that describes the rationale for the intervention
 3. use the first two stages to inform thinking about an impact evaluation plan.

Logic Models

- 1.23 The purpose in developing a basic logic model is to outline how the intervention will achieve what it aims to achieve. The model should allow a claim that the intervention made a substantive contribution to the changes in outcomes. In very complex situations (for example the relationship between coach education and coaching practice), it may be more relevant to document the contribution, rather than 'prove' its effect. In ideal circumstances, this stage should be undertaken before the intervention gets under way¹⁷, and it should be created by those responsible for the direction and management of the intervention.
- 1.24 The logic model is a useful presentational device for demonstrating in a graphic fashion the variables involved in the UKCC and the relationship between them. The issues to be addressed will be determined by both the strategic aims of the intervention and a theoretically informed logic model. The objective in this report is to identify and display the logic model of the UKCC; it is not the role of the consultant to critique the model.
- 1.25 In many intervention studies, there is an absence of detail about the conceptual basis for the design of the intervention and the approach to evaluation. The relationship is often an implicit one between theory and practice. McGraw et al. (2000)¹⁸ suggest that 'greater conceptual clarity is needed in defining key implementation constructs'.

The fundamental linkage¹⁹ is that implementation is followed by process evaluation, followed by impact evaluation (intermediate outcomes, and changes in predisposing, enabling and reinforcing factors) and, finally, outcome evaluation.²⁰ Because methodologies are underdeveloped and the

¹⁶ The Kellogg Foundation publication *Logic Model Development Guide* (2004, www.wkkf.org) is a valuable source.

¹⁷ Although this is a fairly basic principle, it is more complex in transformational change with extended development and lead-in times. The model should certainly be developed at an early stage and prior to evaluation.

¹⁸ McGraw, S.A., Sellars, D., Stone, E., Resnicow, K.A., Kuester, S., Fridinger, F., CHES, and Wechsler, H. (2000) 'Measuring implementation of school programs and policies to promote healthy eating and physical activity among youth'. *Preventive Medicine*, 31: S86-S97.

¹⁹ The Kellogg Foundation publication *Logic Model Development Guide* (2004, www.wkkf.org) is a valuable source.

²⁰ The general principle of logic models owes much to the work of Green and Kreuter (1991, 1992) and the PRECEDE model in health promotion. For example: Green, L.W., and Kreuter, M.W (1991) *Health Promotion Planning: an Educational and Environmental Approach* (2nd Edition). Mountain View, CA: Mayfield Pub. Green, L.W., and Kreuter, M.W. (1992) 'CDC's planned approach to community health as an application of PRECEDE and implications for PROCEED'. *Journal of Health Education*, 23: 140-147.

optimal design (randomised control) is not possible in large-scale interventions, such as the UKCC, there has been an emphasis on process monitoring and evaluation (including the collection of observational and qualitative data) to ensure that actual delivery conforms with the formal proposal, to seek to understand which components contribute to which outcomes, to attempt to overcome the major problems involved in measuring some of the desired outcomes, and to permit comparison between interventions.

Impact Evaluation

- 1.26 Some general principles can be identified in the impact evaluation of large-scale interventions. For example, Lister-Sharp et al. (1999)²¹ reviewed research evidence relating to the effectiveness of large-scale interventions. The authors emphasised that, because of the difficulties in achieving rigorous control conditions, process monitoring and evaluation are essential. The nature and content of the implementation system become important issues for evaluation research. In terms of the methodologies employed, they identified an emphasis on intermediate outcomes, but suggested the need for longer-term behavioural outcomes. They supported the need for process evaluations to identify good practice and relevant contextual variables.

Peersman and colleagues (1998)²² reviewed the effectiveness of health promotion interventions in the workplace. They suggest the following:

- Interventions with multiple components should be clearly described:
 - what the components are
 - how they are implemented and by whom.
- Evaluation should move from delivery and acceptability to effectiveness.
- A mix of quantitative and qualitative procedures are required.
- There is a need to develop specific research methods for complex interventions in order to assess the active elements of the intervention.

Process monitoring should include inventories of the nature, volume and quality of inputs to enable informed comparisons between sports and levels. This should provide the basis for an understanding of the nature of the resources required for programmes that are deemed to be 'successful', and to permit replication of such programmes.

- 1.27 The process of policy formulation and implementation is also important. This needs to be examined critically to understand strategic targets. On the other hand, and at the implementation level, the outputs of the UKCC should also be monitored to help to determine how the programmes (learning programmes, quality control) have impacted on the mediating variables (the coaches' expertise). Process evaluation (ie judgements based on the process-monitoring data) should be ongoing because:

process evaluation is an important component of a comprehensive approach...because programmes are seldom delivered exactly as designed

²¹ Lister-Sharp, D. Chapman, S., Stewart-Brown, S., and Sowden, A. (1999) 'Health promoting schools and health promotion in schools: two systematic reviews'. *Health Technology Assessment*, 3(22).

²² Peersman, G., Harden, A., and Oliver, S. (1998) *Effectiveness of Health Promotion Interventions in the Workforce: a Review*. Health Education Authority.

*and planned... Without detailed process evaluation, we can only infer that perhaps the implementation did not occur as expected.*²³

- 1.28 A further, and simple, model of impact evaluation is that suggested for evaluating the potential of an intervention for translation and impact on public health (see http://www.re-aim.org/2003/researchers/framework_res.html) – RE-AIM. This can be adapted for use in other interventions. There are five dimensions to the evaluation:
- Reach
 - Efficacy
 - Adoption
 - Implementation
 - Maintenance.²⁴
- 1.29 There are a number of factors to consider in relation to impact/change that will be present in most interventions. One of these is the time lag, in the sense that a change in the system of coach education will take a period of time to have a demonstrable effect at the output and, particularly, outcome, stages. However, there is no evidence on the 'impact delay' in coach education, largely because the review of literature will demonstrate that there has been insufficient attention to evaluation at the systems level.²⁵ One might speculate that regulatory and structural changes should be evident immediately and changes to the learning experience itself should not be delayed as a result of workforce training and resources. However, the impact of coach education on practice will be affected by the number and scheduling of coaching courses and the numbers of coaches attending. The time lag will be a function of the accumulative effect of the provision over time (and at different levels).

The changes to subsequent coaching practice and its outcomes are, understandably, subject to some delay. At the level of the individual, there will be a period of learning, practice and reinforcement. At the system level, the scale of the throughput of certification and CPD will influence the diffusion of desirable practice, and as an accumulation over time.

There is no evidence that this issue has been considered in previous evaluations of coach education impact, beyond a common-sense appreciation that interventions take time to have an impact. In relation to the UKCC, the relevant factors might be the comprehensiveness of the governing bodies' programmes, licensing and CPD. More generally, impact methodologies should not expect extensive short-term effects on outcomes, and sport-specific impact must be evaluated in relation to the scale of coach education and its throughput.

²³ Mukoma, M. and Flisher, A. (2004) 'Evaluations of Health Promoting Schools: A Review of Nine Studies'. *Health Promotion International*, 19(3): 357-368.

²⁴ Reach: the absolute number, proportion and representativeness of individuals who participate in a given intervention or programme. Efficacy/Effectiveness: the impact of an intervention on important outcomes. Adoption: the number of organisations who are willing to take part in the programme. Implementation: this refers to the delivery fidelity to the various elements of the intervention design, including consistency and cost. At the individual level, it refers to the use of the key intervention principles. Maintenance: the extent to which the intervention becomes institutionalised or part of the policy framework. At the individual level, this refers to the long-term effects on practice some time after the intervention episode.

²⁵ It is also worth noting that a period of constant change will make it difficult to evaluate how long it will take for a new 'system' to have its effect.

1.30 There are distinctions between the terms most commonly used to refer to the 'level of success' of an intervention. It would be helpful to adopt a straightforward approach to this issue. The evaluation of the intervention (the UKCC) should ask the following questions:

1.30.1 To what extent can a consistent logic model be identified?

1.30.2 To what extent has the UKCC been implemented successfully (ie in relation to intentions) [fidelity]?

1.30.3 To what extent has the UKCC been effective (ie has produced the coach education outputs intended [fidelity and impact on coach education])?

1.30.4 To what extent has the UKCC impacted effectively on outcomes (ie has changed coaching practice) [impact on practice]?

Each of these components of evaluation presents different challenges. There is also the potential for the UKCC to be effective in some contexts or sports and not in others, although the explanations for these differences would be important.

1.31 There may be some measure of flexibility in the focus of the evaluation (and, by implication, in the packaging and presentation of results). For example, it may suit the ideology of the UKCC, and the change rationale with its emphasis on the 'how to' in the learning programme, to focus on delivery behaviour. The 'how to' in the documentation is generally described in this 'direct intervention' context.

1.32 It is also necessary to consider the nature of the change process. The evidence available points to the UKCC being transformational (or revolutionary) change, in that it is designed to affect the whole coach education system. In relative terms, the change is 'big bang', being characterised by a relatively short implementation phase and an intention to be all-embracing.²⁶ It is not intended to be a 'deficit-based' change (making up solely the perceived limitations in the existing system), although these have formed the design catalyst. One of the implications for the evaluation methodology is that there is no sizable control group of comparable governing bodies of sport against which to measure impact.²⁷ One possibility, however, is to compare groups of governing bodies that are perceived to be of higher and lower degrees of change from their existing coach education practice.²⁸

1.33 Existing practice in coach education is considered to be poor, with extensive limitations and providing an imperfect baseline account of coach education practice. In addition, this raises a basic question: 'if coach education is not

²⁶ The implementation process itself within governing bodies of sport may have an element of incrementalism, and there is also an element of 'stranding' in the selection of pilot and phase-one and two sports. Nevertheless, the whole process, post-development, has occupied a relatively short time span, and has followed a very structured implementation process.

²⁷ This is partly influenced by 'intervention creep', ie the absorption by agencies outwith the UKCC being influenced by its principles.

²⁸ Caution should be exercised, as the impact remains susceptible to the overall impact of coach education on coaching practice in relation to other learning media and processes, and it may be difficult to isolate the coach education effect alone.

following existing good practice, what factors lead the drivers of the UKCC to believe that it will do so in the new system?' There is a likely argument in response that involves enhanced quality control, the endorsement framework, learning programmes, improved support, sustainable funding, and career incentives. However, the question itself points to the need for the impact-evaluation exercise.

- 1.34 The level of impact on coaching practice will also be influenced by the extent to which existing patterns of education and training provide comprehensive coverage. Therefore, evidence that is currently the focus of coaching audits and workforce development planning on the proportion of coaches engaged in the qualifications process, the proportion deployed at (what are considered to be) appropriate levels, and the proportion engaged in CPD is necessary to provide some measure of anticipated impact.
- 1.35 It will take some time for the community of practice – that is the interacting network of coaches and their shared values and assumptions – to become a positive reinforcing feature of the new ideology, rather than a limiting factor. It is doubtful if the community of practice could be considered a key change agent, unless there is a demonstrable demand for change or a high level of dissatisfaction. The community of practice is one of the support mechanisms identified as a 'reinforcing factor' in the logic model and may need to be considered in outcome evaluation.
- 1.36 A significant issue for the drivers of the UKCC is that, in general, assessment of coaches is not conducted in relation to sport performance measures²⁹; there is rarely an outcome measure of effectiveness or expertise. Thus, coach education is intended to further the coach's expertise, but the demonstration of this has not typically been related to sport performance per se. If one of the intended outcomes of the UKCC is increased standards of athlete performance, it is important that the assumptions of a link between the coach education elements of the coach's expertise and the athlete's performance are made evident.

Summary

- 1.37 One of the principal objectives for this report is to recommend a methodology with which to effect an impact evaluation of the UKCC. In addition to outlining the scope of the report, the introduction has examined some of the challenges and issues in conducting an impact evaluation of the UKCC: for example, the system-wide extent of the intervention, and the replacement of the existing rather more ad hoc provision with a comprehensive UK-wide approach.
- 1.38 Challenges for the impact evaluation were recognised at an early stage and include:
 - 1.38.1 the step-change inception with incremental impact on practice over time
 - 1.38.2 the underlying state of knowledge and research in the field, which is accelerating rapidly, but has yet to address some fundamental issues

²⁹ This is in obvious contrast to the media treatment of coaches' 'effectiveness'.

- 1.38.3 The evolutionary (continuous development process) aspect of the UKCC.
- 1.39 The introduction went on to highlight the change process involved in the development and operationalisation of the UKCC. Significant factors identified were:
- 1.39.1 the scale and comprehensiveness of the UKCC
 - 1.39.2 the 'distance' from existing practice
 - 1.39.3 the range of change agents
 - 1.39.4 the change style and level of ownership within the system
 - 1.39.5 a catalogue of factors likely to bring about a positive impact; these will be considered again in the recommended impact-evaluation methodology.
- 1.40 The relationship between the rationale for change and the subsequent evaluation model was discussed. The advantages of a clear logic model as a device for demonstrating the important linkages has also been highlighted.
- 1.41 Finally, there is a review of some of the issues likely to affect the impact evaluation, including the difficulty of conducting rigorous controlled trials, the emphasis on process monitoring and evaluation to deal with the 'fidelity' of the intervention, the influence of the community of practice and the policy environment within which the UKCC will be delivered.
- 1.42 The report now goes on to describe the rationale for the UKCC in greater detail, more particularly to identify the key design features and programme designers' intentions.

2.0 Description and Rationale of the UKCC

Introduction

- 2.1 The rationale is the logical (or otherwise) basis for the UKCC in design and delivery. The purpose of the rationale, in this instance, is to provide the answers to a series of questions that underpin an impact methodology to evaluate the scale and significance of the change effected by the implementation of the UKCC framework. The questions (which inform the subsequent structure of the report) are:

- What is the UKCC?
- Why is it designed as it is?
- What is it intended to achieve and how likely is it to achieve its stated outcomes?

The UKCC is both the change and the catalyst for change.

- 2.2 To some extent, the task is made easier by the rationale and the accompanying logic model being devised 'after the fact'. In other words, there has been a discernible structure and direction to the development phase of the UKCC, but this has not always been recorded in a systematic fashion³⁰. However, the identification of the logic model serves a number of purposes. It:

2.2.1 focuses the attention of the system designers onto the fundamental principles

2.2.2 provides an opportunity to restate unrecorded assumptions about the UKCC

2.2.3 creates a framework for identifying likely problems

2.2.4 provides a strategic overview of the UKCC development process

2.2.5 creates the basis for a model for evaluation.

- 2.3 The rationale is also supported by a review of relevant, and coach education, research literature. One of the issues in the design of the intervention is the extent to which it is based on evidence derived from rigorous studies of effective coach education. In broad terms, the interviews and documentation make it clear that this is not the case; partly as a result of the dearth of implementation and evaluation research into coach education. The process can best be described as 'part good practice, part expert opinion, and part ideological aspiration'. It is very clear that the development of the UKCC was founded on a very strong ideological conception of coaching and coach education, with a clear and consistent conception of 'how coaching and coach education should be'. It is also clear that principles of good practice from assimilated research in education and teaching have been incorporated into the design.

³⁰ This is not to suggest that the development process was entirely unrecorded, merely that it only became evident at a later stage that the unfolding rationale, and the argument and evidence to support this, would be valuable in shaping the change/logic models and communicating the UKCC philosophy.

- 2.4 The design of the UKCC is based more on its assumptions and vision than on substantive research evidence from coach education.³¹ However, there is also an evident thread of good practice and principles from related fields (for example, general principles of educational practice). There is nothing that suggests, *prima facie*, that the components are inappropriate. The UKCC designers have identified aspects of the coach education system that are changeable and that, in addition, are likely to be most influential for impacting on (desirable) coaching practice. There is no substantive evidence³² on what constitutes effective practice in coaching, rather than desirable practice, although this reflects the multiplicity of objectives in coaching and the state of knowledge in the field, rather than any shortcomings of preparation or development.
- 2.5 The issue of research findings is less relevant (to the designers) because of the strong ideological position. Further, the UKCC is not a copy of another system used in coaching, and there can be no direct comparison of process or outcomes, or evidence of comparable implementation.
- 2.6 This section now goes on to describe the UKCC.

The UKCC – Definition and Scope

- 2.7 The UKCC is an endorsement framework for sport-specific coach education programmes, within which award programmes and their supporting structures are Kitemarked against a set of standardised, UK-wide criteria that reflects UKCC principles. The UKCC is intended to make a 'step change' to the UK coach education 'system', and this revitalised education, training and qualifications system forms part of a more strategic effort to professionalise sports coaching.
- 2.8 The UKCC is characterised by being endorsement-driven, ie a governing body of sport's programme proposals satisfy criteria on the structuring and resourcing of the training provision and the appropriateness of quality-assurance mechanisms in assessing outcomes and in the arrangements for training providers. A number of these interests coincide with those of an awarding body which quality controls the certification process. A pilot endorsement panel was established by SkillsActive, reporting (in matters of process and procedure, terms of reference and so on) to its Professional Development Board representing the whole sector³³.

³¹ This should not be interpreted as a criticism. The report *Finding Out What Works* (Coote, Allen and Woodhead, 2004, King's Fund) examined a variety of health, education and social exclusion initiatives, and provided the following summary statement:

*Despite the claims made in official publications, the social programmes discussed...are not strongly evidence based. There is a gap between the rhetoric of evidence-based policy and what happens on the ground, which is a great deal more complicated. Interviews with those in central government make it clear that they have been designed by and large on the basis of informed guesswork and expert hunches, enriched by some evidence, and driven by political and other imperatives. **This is not surprising and will not, necessarily, lead to less effective interventions.** (Emphasis added.)*

³² The term is used here in an 'academic' sense. There is a good deal of taken-for-granted consensus within coaching communities on what constitutes good practice.

³³ The Professional Development Board had been established by SkillsActive to further the strategic coordination of providers, training and skills deficits in sport and recreation. At an early stage, the Coaching Steering Board (which followed from the government's Coaching Task Force proposals) had decided that a separate agency was required in order to separate the development and endorsement functions. The Professional Development

The whole exercise has been guided by the Coaching Steering Board, which emerged from the minister's Task Force Review on Coaching.

The endorsement of coach education programmes is judged against agreed criteria including a transparent endorsement process for coaching qualifications, the development of appropriate resources to deliver effective and high-quality coach education programmes, quality-assured administration and management structure of coach education provision provided by sports, and quality-assured training provision for coach educators and other personnel.

The early development of the UKCC was supported by a number of key documents. These are the:

- Endorsement Criteria – the structures and resources required by coach education programmes in order to obtain UKCC endorsement
- Qualification Specifications (Guidance Notes), which set out the minimum requirements for qualifications, learning programmes and materials.

2.9 The previous paragraph describes the historical development of relevant bodies and resources. These form part of a dynamic process and changes/improvements continue to be made in the oversight, management and the implementation of the endorsement process, and in the guidance offered to governing bodies of sport.

2.10 The development of the UKCC has been guided by a number of broad aims. These can be summarised as follows:

2.10.1 Replacement of the previous ad hoc coach education system (pre-UKCC) with a consistent, structured and resourced coach education system, including separate and defined roles for the following individuals and organisations:

- coaches
- coach educators (tutors)
- trainers
- assessors
- verifiers
- mentors
- approved training centres
- awarding bodies
- endorsement panels
- endorsement agencies.

2.10.2 Development of consistent and robust qualification specifications, learning programmes and resources based on good-practice principles from emerging coach practice and the wider education sector. It rejects the 'teacher-centred' approach in favour of 'learner-centred' approaches, 'problem-based learning' and an applied and integrated approach to delivery. The UKCC aims to promote 'athlete-centred coaching practice' and 'learner-centred coach education'.

2.10.3 The UKCC focuses on coaching as a critical thinking activity – enabling and empowering coaches to make effective decisions. The

Board had begun to acquire some experience in this function and seemed an appropriate choice.

emphasis is placed on the 'how' (eg communication), 'what' (eg technical/tactical) and 'why' of coaching practice in learning programme design, rather than simply on 'what' (which was perceived to be the more traditional pattern). The UKCC allows for horizontal and vertical performance and developmental coaching pathways to occur.

- 2.11 As a result of the government's Plan for Sport, a task force had been established to promote developments in coaching towards 'profession' characteristics. Not all of the task force's recommendations have been proceeded with. Nevertheless, there was a clear message that the 'quality' of coaching should be improved, and central to this was an improved coach education system. This aspiration was founded on perceived (and widely acknowledged) weaknesses in existing provision.
- 2.12 There were concerns about **existing provision**. These perceptions were very important, as they formed the basis for the UKCC rationale. Weaknesses were identified as:
- 2.12.1 concerns about the comparability of provision and certification among sports
 - 2.12.2 an absence of rigorous quality-control measures
 - 2.12.3 a perceived vacuum in coach education 'philosophy'
 - 2.12.4 limited scale and depth of preparation, with an overemphasis on sport-specific technical content
 - 2.12.5 coach education workforce (tutor, trainer, assessor, and verifier) training being limited
 - 2.12.6 a lack of variety in delivery methods and lack of attention to individual needs
 - 2.12.7 recognition of poorly developed delivery/'how to' skills
 - 2.12.8 too much simulation in programmes (too much classroom activity), too little workplace learning (perceived as the limitation in previous NVQ developments).
- 2.13 There was an extensive development/consultation process. A group consisting of governing body of sport, HE, and sports coach UK representatives began working from national vocational standards and made suggestions to governing bodies of sport on a potential framework. The group then worked on the emerging National Occupational Standards (NOS) and created a 'coach speak' version of these NOS. The interviews confirmed that the guidelines were 'more than loosely based' on NOS, but they needed some manipulation because the NOS were only available at Levels 2 and 3.³⁴ sports coach UK representatives had also felt that not all NOS competences were required, and that some elements were not at the

³⁴ One interviewer explained how the development work on the guidelines had begun before the establishment of SkillsActive, which became the 'regulatory authority' for matters relating to National Occupational Standards. It is important that the guidelines for qualifications were based on the NOS for the purposes of securing QCA endorsement and subsequent funding. This is an issue when describing the development process.

correct levels. A 'benchmark approach' was adopted at Levels 4 and 5. This was intended to be less prescriptive and more user-friendly.

- 2.14 At an early stage, the development group had decided that a generic plus specialist structure would not work, partly for 'buying-in' reasons and partly the efficacy of subsequent integration³⁵. Therefore, it was decided that sports would create learning programmes that would be built around identified core skills and knowledge, and integration became a key feature of the endorsable programmes.
- 2.15 Two groups were established within sports coach UK; one for governing body of sport support and one for the qualifications framework. sports coach UK focused on workforce development (coach educator training) and support staff to assist governing bodies of sport, based on a system of prioritised resources. Its relationship managers were apprised of the sports' source groups, which were responsible for design and regulation of the sport-specific content and integration with the core guidance criteria. There was also a promotional campaign.
- 2.16 The issue of development of all five levels together 'at the same time' was acknowledged to be a significant challenge. However, the significance of the scale of the developments led to an important development assumption – not all issues would be satisfactorily addressed in the first phase, and the UKCC should be recognised to be a 'continuous process' and not a 'finished product'.
- 2.17 However, there was no doubt about the programme designers' intentions; often expressed as 'improved quality', rather than simply change. Positive change would be visible in learning programmes, 'tighter, longer applied practice', infrastructure, consistency throughout the 'system', and the quality of tutors. Based on a very strong educational principles approach, a 'step change in process' was envisaged for governing bodies of sport. Central to this was greater attention to the learning programmes, a tightening of quality assurance (passing), and more formal arrangements with awarding bodies.
- 2.18 There was clearly an assumption that improved coach education would result in better coaching practice, improved recognition of status for coaches, impact on retention, successful leadership and professional development. These criteria provide a potential group of impact criteria.

³⁵ The generic plus additive model is preferred by QCA because it offers the potential for greater cost-effectiveness. The UKCC model is, therefore, not the preferred model for the agency most influential in securing sustainable funding.

2.19 The following table describes the key principles on which the UKCC is founded:

Table 3: UKCC Principles

UKCC	
Key Principles	These principles would be evident in: ▪ learner centred design and delivery ▪ integrated generic and sport-specific content ▪ standardisation of learner experience ▪ a flexible five-level structure with vertical and horizontal pathways ▪ an increased emphasis on delivery ('how to') skills ▪ coaching competences defined by role function needs, rather than level of athlete performance ▪ a national system of quality assurance, mediated by awarding bodies, and an endorsement process.
Coach and participant-centred	
Based on National Occupational Standards	
Vertical and horizontal progression	
Quality-assurance mechanisms	
Flexible in design and delivery	
Centrally coordinated	
Stakeholder ownership	
Based on existing good practice	

Since the intention of the UKCC is to bring change to coach education in the UK, it is appropriate to consider what the changes would be and how they would relate to current provision. The following table summarises this 'pre-post' analysis. Clearly, the criteria adduced in the table will be incorporated into impact evaluation methodology.

Table 4: Pre-Post Analysis of UKCC

	Pre-UKCC	Post-UKCC
Category	Criteria	Criteria
Fragmented system	No programme consistency	Centrally coordinated Agreed endorsement criteria
	No governing body of sport comparability	Quality-assurance/ endorsement process in place
	No common culture of coach education	Coach education viewed as shared experience by NGBs Ownership by stakeholders
	Absence of coach education philosophy	UKCC philosophy underpins all development Emerging body of knowledge about coaching and coach education
Quality assurance	Poor quality assurance	Transparent endorsement process Scrutiny of NGB procedures
	Tutor training limited and variable	Quality-assured training in place Training of mentors, assessors
Programme design	No parity of learner experience	Accountable parity of learning
	Inconsistent relationship between NOS and governing body of sport levels	Standards/competence statements agreed across sports
	Qualification levels associated with levels of performance	Vertical and horizontal progression
	Structures inflexible	Move away from courses to 'learning through' supported experience APEL, fast-track systems in place Blended learning
	Scale and extent limited	Increased scale of provision Learning experience increased
Programme delivery	Overemphasis on sport-specific content	Redressed balance on 'how' and 'why' skills
	Limited delivery skills	Emphasis on 'how to' skills
	Separation of generic and sport-specific material	Integration of core and technical materials
	Little underpinning discipline-based knowledge in course content	Greater depth of explicit underpinning knowledge required
	Too much simulation, too little practice	Increased experiential element Assessment in situ
	Insufficient attention to individual needs	Learner-centred design and delivery Development of appropriate resources
Coaching	Teacher-centred	Athlete and coach-centred
	Qualifications not valued by employers as basis for selection and deployment	Employers use UKCC as basis for employment
	Increased availability of and reliance on research/evidence-based coach education policy Coach education as central feature of professionalisation Integration of FE and HE Improved recruitment and retention in coaching Improved standards of performance by athletes Innovation encouraged	

The five levels of the UKCC are described in terms of the coach's role function, as follows:

Level	Descriptor
1	Assist more-qualified coaches, delivering aspects of coaching sessions, normally under direct supervision.
2	Prepare for, deliver and review coaching session(s).
3	Plan, implement, analyse and revise annual coaching programmes.
4	Design, implement and evaluate the process and outcomes of long-term/specialist coaching programmes.
5	Generate, direct and manage the implementation of cutting-edge coaching solutions and programmes.

- 2.20 Inevitably, any new development, and particularly one of this scale of change, has to take place in the existing environment, and this can provide a number of challenges to be overcome. It is important to recognise these at an early stage, since they may influence the extent to which the UKCC impacts successfully. The challenges identified were generally about the coaching environment, the financial aspects of implementation, and issues about the 'take up' by governing bodies of sport. A specific barrier was the fact that the mandatory licensing of coaches, which had been a recommendation of the task force, had not been implemented at the same time as the UKCC.
- 2.21 In particular, some features of the coaching environment might limit the extent to which the positive changes from coach education would impact on the outputs and outcomes of coaching. Issues identified included initiative-led programmes in local authorities, club structures, coach deployment, volunteerism, the fragility of recruitment, workforce-development planning, and coach-player ratios. It was also recognised that there would be some issues over the level of financial support for coach education.
- 2.22 Throughout the project, there was considerable concern over finance. It was expected that the UKCC-endorsed qualifications would cost more and that a sustainable funding package was required. A SkillsActive representative felt that there would be limited help from vocational qualifications funding, since this was targeted at only a small proportion of those who generally undertook awards. There would also be overhead costs from tutor training and support services. Funding had been made available for governing bodies of sport in this phase of implementation (although not all that had been requested). However, there was concern expressed about the sustainability of funding.
[Inevitably, the review reflects the position as expressed by interviewees within a particular time span. Financial issues have been recognised and funding matters are being addressed by DCMS, DfES, etc.]
- 2.23 There were other concerns about the effectiveness of coach education programmes; for example, if the desired changes could be achieved in the time (even if used appropriately) that could be made available for learning programmes. Despite being built into the change process, it was

acknowledged that the availability of mentoring was a significant assumption, both in terms of availability and expertise.³⁶

2.24 The changes required in the environment within which coach education is delivered led to the identification of a number of criteria that were more reflective of the overarching impact of the UKCC on professionalisation criteria. These are an important contribution to impact-evaluation criteria. Thus, success was variously interpreted as:

- coach education viewed as a shared enterprise by governing bodies of sport
- accountable parity of learning (in programmes) across sports
- the competence/standards statements agreed across sport
- a discernible move away from courses to learning through supported experience
- an emerging body of knowledge about coaching and coach education
- employers (local authorities, schools, parents, clubs) using the qualifications as a basis/requirement for employment
- media and government being aware of the UKCC and recognising the place of qualifications in an emerging profession
- the public in general recognising coaching as a profession.

Rationale

2.25 The principal objective of this stage of the report was to identify the rationale/logic model for the design of the UKCC and to employ this information in the design of the methodology necessary to carry out the impact study itself. As part of the gathering of evidence on the development of the UKCC, a number of interviews were carried out with those individuals centrally involved. The interview programme was determined by the client and a generic interview schedule was devised and agreed with the client.³⁷

The feedback from these interviews has been used to describe the development rationale for the UKCC. The objective of this part of the review is to explore the constituent parts of the rationale and to understand how the development of the UKCC and its design and implementation might be reflected in the impact evaluation methodology.

³⁶ There were some sport-specific issues related to the extent to which coaches operated within mutually reinforcing communities of practice.

³⁷ Interviews took place with (* indicates a face-to-face interview): Warwick Andrews*, SkillsActive (formerly sports coach UK); Belinda Beaver*, sports coach UK; Sue Campbell, Chair, UK Sport, Youth Sport Trust; Phil Collier, SkillsActive; Tony Dallimore*, 1st4Sport (worked on endorsement criteria); Helen Davey*, sports coach UK, Strand Leader; Andy Gair*, sports coach UK, Relationship Manager; Sue Jolly*, sports coach UK, Coach Education Manager; Dave Levine*, sports coach UK, Relationship Manager; Sarah McQuade*, Consultant (formerly sports coach UK Technical Officer); Julian North*, sports coach UK, Research Manager; Rod Thorpe*, sports coach UK, Board Member, Consultant; Ian Wilson*, sports coach UK, Head of Governing Body of Sport Support. Each of the face-to-face interviews was tape-recorded and summary notes compiled. Each of the interviewees was extremely helpful and forthcoming.

The consultant met with Sue Jolly and Julian North on a number of occasions. He also attended a number of meetings at which the relationship between the UKCC and higher education was discussed.

2.26 The interview schedule was structured around the following:

- the rationale for the UKCC
- the components and structure of the UKCC
- the individual's role in the development, and evidence base
- perceptions of operational barriers
- perceptions of the impact/change of the UKCC
- the impact of coach education more generally
- definitions of related terms
- open-ended discussion on related issues.

The UKCC: What Is It?

2.27 The UKCC was described by interviewees in a number of ways, generally by structure, and by perception within the profession. Interviewees answered to both description and intention. There was consensus that the UKCC was an endorsement framework which embraced a qualifications programme awarded by a QCA-recognised awarding body³⁸. Qualifications and learning programmes are reviewed by an endorsement agency against a set of principles and standards, although there is intended to be a significant element of variability in the programmes. The overall purpose is to standardise coach education.

2.28 The UKCC was also described as a 'Kitemark', ie an acknowledgement of quality assurance. It was also described as a 'brand', although others questioned the efficacy of branding when the UKCC was more than a certification process.

2.29 Change was a common feature of interviewee responses. The UKCC was viewed as an opportunity to 'change the system'. Improving 'quality' (albeit undefined) was universal. However, one individual questioned whether the UKCC itself was really a change agent or a catalyst for other changes. Another questioned whether, at this stage, those 'outside' understood what the UKCC was, and whether a more visible identity was required.

2.30 Responses were unequivocally positive. Within this, one more cautious view was expressed that the UKCC had been an opportunity for a visionary change in coach education, but that the consultation process and rationale may have led to a danger of the UKCC being 'more of the same'. This view was not universal, but was offered from a strategic perspective and is highlighted as an early issue to be resolved in the impact evaluation.

Emerging Rationale

2.31 There was a general consensus that the rationale for the UKCC had been largely tacit and was 'only just being put on the table'.³⁹ The evidence base emerged from a consultation process and what was a rather limited repository of specific research evidence. The interviews confirmed that there

³⁸ There are some differences between regulatory frameworks in each of the UK home countries. These are not repeated on each occasion, unless a specific issue arises.

³⁹ Subsequent discussion confirmed that there were some records of the evolution of the UKCC, although these had not been collated into a summary profile of the rationale as it had emerged.

had been a selective review of related literature, and 'benchmarking against other countries', but the arguments derived from the latter had not been recorded. A planned and detailed 'change model didn't exist', but the UKCC itself was perceived as the principal catalyst for change. The change and its associated vision and aspiration was 'embedded in the UKCC itself'.

- 2.32 It was possible to identify a number of detailed themes/principles that underpinned the UKCC and had been derived both from perceived shortcomings in the existing system and from a clear vision of 'what coach education should be':
- 2.32.1 The dissociation of qualification levels from the performance ability of the athlete.
 - 2.32.2 The dissociation of qualification levels from sporting context, and rather with 'role function'.
 - 2.32.3 Coach education should be less teacher-centred and more learner-centred.
 - 2.32.4 The coaching process could be conceived of as the 'how', 'what', and 'why'. This distinction could be used to structure the generic content, establish priorities at different stages, and rebalance the (perceived) limitations on 'how' skills in coaching and coach education.
 - 2.32.5 Coach education learning programmes needed an infusion of educational/learning principles. These were acknowledged not to be in any way novel (for example, individualisation, experiential, formative feedback, problem-based), but not a current feature of the majority of coach education programmes.
 - 2.32.6 The UKCC was to be 'learner-centred'. This was a clear ideology that pervaded the interviews, and was focused on a 'needs-related' approach. It also appeared to reflect a conviction that coaching (as well as coach education) should be 'learner-centred'. One interviewee expressed the principle as 'get learning first and then get coaching'.
- 2.33 There were some statements about the intended impact of the UKCC. There was an argument that the UKCC-endorsed programmes would impact positively on behaviour because they reflected the athletes' needs. In general, these statements were made without specific reference to what would constitute 'better practice' in output or outcome terms. The improved quality-assurance element was important to the UKCC, because it would lead to 'parity of experience' for the sportsperson.
- 2.34 It seems very clear that the rationale was not based on coach education research evidence because of the paucity of the latter. However, the development of the UKCC has been informed by research and practice from the education area.
- 2.35 The UKCC rationale embraces a five-level qualification process, the distinctions being described in terms of role function. From the discussion over the period of this project, it is evident that there continues to be some debate about threshold levels at which the term 'coaching' is the most appropriate descriptor. This debate has implications for the overall development of sports coaching as a profession. Although there was some discussion with most interviewees about the 'gold standard' issue, ie the

point at which the profession, or perhaps more appropriately the public, might acknowledge 'coach status', it was pointed out by some interviewees that the real concern for many sports was the 'numbers of coaches on the ground' to deal with demand and potential growth for new entrants to the sport (particularly in the context of initiatives to reach health/activity-related participation targets).

Endorsement⁴⁰

- 2.36 The UKCC is characterised by being endorsement-driven, ie the governing body of sport's programme proposals⁴¹ satisfy criteria on the structuring and resourcing of the training provision and the appropriateness of quality-assurance mechanisms in assessing outcomes and in the arrangements for training providers. A number of these interests coincide with those of an awarding body, which quality controls the certification process. An endorsement panel was established by SkillsActive, reporting (in matters of process and procedure, terms of reference and so on) to its Professional Development Board representing the whole sector⁴². The whole exercise has been guided by a coaching steering group, which emerged from the Minister's Task Force Review on Coaching. The endorsement panel was a pilot one and the process has now been reviewed and restructured as the first tranche of pilot sports completes the process.
- 2.37 The evidence gathered for this review, and relevant to the endorsement process, was based on a pilot endorsement process. This has since been amended as the result of an evaluation and review process. The following comments reflect the issues identified by interviewees, based on their experience of the process to date. These may highlight considerations for the evaluation of the emerging process.
- 2.38 Although there was no doubt about the appropriateness of the endorsement process and its acceptance by stakeholders, its inception was a radical departure from existing practice and a number of challenges were evident. For example:
- 2.38.1 The contextual delivery of the learning programme, which is central to the UKCC ethos, is not conveyed well on paper.
- 2.38.2 Also, the endorsement exercise is a 'paper' one, although it includes judgements on the robustness of the 'self-policing' procedures. Some reservation was expressed in the context of a limited amount of process monitoring and evaluation being carried out within existing programmes.

⁴⁰ IMPORTANT NOTE: The endorsement process has changed considerably since the fieldwork and writing was undertaken for this report. Therefore, the commentary should be seen to reflect on earlier iterations of the endorsement process only.

⁴¹ As noted later, one of the issues to arise is whether the endorsement should be granted to the proposals, the practice, or both (although it is taken for granted that the intrinsic review process should be robust).

⁴² The Professional Development Board had been established by SkillsActive to further the strategic coordination of providers, training and skills deficits in sport and recreation. At an early stage, the Coaching Steering Board (which followed from the government's Coaching Task Force proposals) had decided that a separate agency was required in order to separate the development and endorsement functions. The Professional Development Board had begun to acquire some experience in this function and seemed an appropriate choice.

- 2.39 A number of sports coach UK employees expressed some concerns about their relationship to the pilot endorsement panel (sports coach UK is an observer on the panel). For example, sports coach UK had wished relationship managers who work with governing body of sport source groups to prepare the proposal to the panel. At this early stage, there is an almost inevitable concern that the application of the endorsement criteria might lead to some lack of consistency. More than one person expressed the view that the endorsement process was key to the success of the UKCC and satisfying the criteria successfully should be a demanding exercise.

Tutor Training /Coach Educator Training

- 2.40 The emphasis within the UKCC on improved quality control and learning programmes resulted in the quality of, and provision for, tutor training becoming particularly important. It had been recognised that current arrangements were somewhat ad hoc in recruitment and training, and there was a lack of consistency across sports. An improved form of tutor/coach educator and assessor training was deemed to be a necessary part of the UKCC provision and the endorsement process. Furthermore, the intended emphasis within the training reflected the more general concern for a better balance of the 'how to' skills.
- 2.41 sports coach UK has devised and run coach educator training. The role of sports coach UK in tutor training is expected to change. It will become a support/materials provider, since it is desirable that governing bodies of sport have greater ownership. The model most likely to be used is that of governing bodies of sport using sports coach UK materials under licence (there are currently examples of this).
- 2.42 The form and content of the training reflects the more general approach, ie trying to empower coaches, more questioning and a less didactic approach, with a strong emphasis on 'how to' skills. There are, however, a number of issues arising from the interviews that will be addressed over time; for example, the extent to which coach educators needed to have had experience of being tutors before the training, whether selection for tutor training was appropriate or necessary and the level of (sport-specific) technical competence required, the impact of increased costs (at present being subsidised by sports coach UK from UKCC establishment funding).
- 2.43 Perhaps the most interesting issue is that there has been no research on the success of the coach educator training, and this needs to be built into the impact study. There is no monitoring in place at the moment, and it was acknowledged that it 'was very difficult to monitor the (transfer of) skills' into learning programmes.

Further Development

- 2.44 It is important to acknowledge that the interviews evidenced a very strong consensus about the aspirations of the UKCC. There was an acceptance of its vision and key principles, greater consistency, endorsement approach, integration, vertical and horizontal progression, tutor training, and so on. It would be inappropriate, however, not to acknowledge that there was a recognition that not all of the operational challenges had yet been

overcome. To some extent, this is a reflection of the 'work in progress' that characterises the UKCC. For example:

- 2.44.1 Levels 4 and 5 are very much in a developmental phase at this stage (as governing bodies adopt different approaches based on prior provision and experience).
- 2.44.2 As with other professional training, a more obvious relationship with FE and HE is required to facilitate resourcing and diversify delivery.
- 2.44.3 The balance between the pedagogical model and a more extensive knowledge-based expertise will continue to evolve.
- 2.44.4 The 'how', 'what', 'why' is a useful device for conceptualising delivery. Nevertheless, it is a simplistic approach and will need to be continually refined, if it is to be a useful contributor to research and evaluation design.
- 2.44.5 Research is required on how 'higher'-level coaches acquire their expertise, and the part that formal coach education plays in this.
- 2.44.6 The concept of coaches at a particular level dealing with all abilities and contexts has a neatness of design, but the practicality of an extensive 'horizontal' structure (including incentives) was questioned. It is difficult to escape the conclusion that the authors of much of the documentation have assumed the coaching of young people at the early stages of certification, although contrary examples are given.

Conceptual Assumptions

- 2.45 The design and development of the UKCC has involved a number of conceptual assumptions about coaching and coach education. This, by itself, is a positive contribution in an under-theorised field. Nevertheless, it is important to identify these assumptions and to acknowledge that these are inevitably open to challenge. Such an analysis is more appropriately carried out elsewhere. However, it is also important to acknowledge that these 'building blocks' are central to the design of the UKCC, and while there may be some debate over their application, it is an important step that these 'principles' are transparent.
- 2.46 Assumptions have been made about matters that could be said to be conceptual insofar as they involved insight into or understanding of coaching and education constructs, and how these impacted on the design of the UKCC. For example:
 - 2.46.1 Coaching is about improving athlete/player performance.
 - 2.46.2 Coaching is conceived as a five-stage role-function model for certification purposes.
 - 2.46.3 The context or environment is very important for determining coaching practice. Within this assumption, the level of performer and athlete aspirations are dissociated from 'level' of role function.

- 2.46.4 Coaching pathways can be linked to performance development (in particular the Long-term Athlete Development model).⁴³
- 2.46.5 Coaching expertise can be developed both vertically (increased role function) or horizontally (increased expertise within the same role).
- 2.46.6 Coaches' increasing role responsibilities embrace an increasing extent of programmes (sessional to multi-annual).
- 2.46.7 Coaching expertise is conceived of as being readily subdivided into 'how, what and why'.
- 2.46.8 Coach education should involve the integration of the generic coaching competences with sport-specific content.

Summary

- 2.47 This section provides a detailed description of the rationale for the UKCC, ie the basis on which the development, design and delivery of the UKCC are founded. The rationale is accompanied by a series of logic models and supported by a review of literature. The UKCC has a clear vision and set of development principles.
- 2.48 The UKCC has been designed to replace the existing ad hoc coach education system in the UK, through the provision of a standardised framework of qualification specifications, and learning programmes and learner-centred resources. The learning programmes are intended to give greater emphasis to the socio-pedagogical skills of the coach – the 'how to' element of expertise. Coaches should develop the capacity to work flexibly and within diverse environments, and learning programmes will be less directive and more enabling.
- 2.49 The weaknesses of the present system have been redressed in the UKCC. These include concerns about the comparability of provision, an absence of rigorous quality-control measures, a perceived vacuum in coach education 'philosophy', limited scale and depth of preparation, with an overemphasis on sport-specific technical content, limited coach educator/tutor training, a lack of variety in delivery methods and lack of attention to individual needs, recognition of poorly developed delivery/'how to' skills, and too much simulation in programmes (too much classroom activity). A fuller treatment of pre-post design is provided in paragraph 2.19.
- 2.50 The development phase included extensive consultation and a review of selected national systems elsewhere, and included a range of national agencies, including SkillsActive. The guidelines are based on National Occupational Standards. The UKCC is part of a strategic reshaping of coaching in the UK. The Coaching Task Force recommendations have resulted in the appointment of coaching development officers and a network of community sports coaches; each of these is directed towards the

⁴³ Since being adopted as policy within the government's document *Game Plan*, the Long-term Athlete Development model provides a general set of principles of good practice for incorporation into learning programmes. However, there is still some work to be done on extending the model into adult participation and, more particularly, reconciling the model with the multi-context philosophy of the UKCC role descriptors.

professionalisation of sports coaching. The UKCC is a significant part of the emerging UK Coaching Framework and subsequent development plan.

2.51 The UKCC is conceived and implemented as a 'step change' in provision. Nevertheless, it is important to recognise that its initial operationalisation remains developmental; acknowledging the scale of change required. In particular, the changes in provision at Levels 4 and 5, often being devised from very limited prior provision, will continue to develop over the coming years. It is also acknowledged that there are a number of implementation barriers – volunteerism and career structure, financial support for volunteer training, and level of integration to FE and HE. Efforts to redress these factors will continue as the UKCC develops.

2.52 The UKCC is a five-level qualifications framework. It has been devised within a set of principles. These are:

- coach and participant-centred
- based on National Occupational Standards
- vertical and horizontal progression
- quality-assurance mechanisms
- flexible in design and delivery
- centrally coordinated
- stakeholder ownership
- based on existing good practice.

These principles are evident in:

- learner-centred design and delivery
- integrated generic and sport-specific content
- standardisation of learner experience
- a flexible five-level structure, with vertical and horizontal pathways
- an increased emphasis on delivery ('how to') skills
- coaching competences defined by role function needs, rather than level of athlete performance
- a national system of quality assurance, mediated by awarding bodies, and an endorsement process.

2.53 A phased development process has characterised the initial stages of the UKCC. The first tranche of sports have been served by a pilot endorsement panel. Source groups in each sport work with sports coach UK to present to the panel their proposals for endorsement of their programmes. As this paper is being prepared, the endorsement process is being reviewed and lessons learned about how it should best operate.

2.54 A significant feature of the UKCC is the emphasis on workforce training (tutors, trainers, assessors, verifiers). This was perceived to be a key element of the intended enhancement of learning programme delivery. To redress the perceived shortcoming in substance, standardisation and orientation to pedagogy, sports coach UK has devised and operated coach educator training. This will, in time, be diffused into governing body provision.

2.55 There are a number of essential 'structural elements' of the UKCC that will continue to evolve. These include integration with the Long-term Athlete Development model, the Long-term Coaching Pathway, the vertical and horizontal alignment of qualifications, development and performance pathways, and integration with sport-specific material.

3.0 The UKCC Logic Model

Introduction

- 3.1 As described earlier in the report, the purpose in developing a basic logic model is to outline how the intervention will achieve what it aims to achieve. In very complex situations (for example, the relationship between coach education and coaching practice), the evaluation that is derived from the model may be used to document the contribution, rather than 'prove' its effect. The model provides the argument to support the logic of the impact.
- 3.2 The logic model is a useful presentational device for demonstrating in a graphic fashion the variables involved in the design and delivery of the UKCC and explains, or models, the linkages between them. The issues to be addressed, particularly in evaluation, will be determined by both the strategic aims of the intervention and a theoretically informed logic model. The model described here has been constructed from the documentation available, and from the interviews undertaken by the consultants.
- 3.3 In many intervention studies, there is an absence of detail about the conceptual basis for the design of the intervention and the approach to evaluation. The relationship is often an implicit one between theory and practice. McGraw et al. (2000)⁴⁴ suggest that 'greater conceptual clarity is needed in defining key implementation constructs'. Nevertheless, the specific circumstances of this report influence the use of the model:
 - 3.3.1 The UKCC logic model is being developed as the implementation unfolds. This means that, in some instances, the details of the implementation are 'ahead' of the guidance that would be implied in the model.
 - 3.3.2 The UKCC is a very large-scale intervention. This means that the logic model inevitably has a sense of 'generalisation' about it. The model may also appear 'reductionist' [but this has to be balanced against the more detailed implementation plans that should follow or that, in this case, are already in place].
 - 3.3.3 The logic model does not provide the detail of the mechanics of the implementation, nor is it a shorthand evaluation tool. However, the model does help to structure the evaluation research necessary to address the effectiveness/impact questions.
 - 3.3.4 The comprehensive nature of the UKCC (embracing quality control processes, coach education workforce training, programmes at five levels, integrated learning programmes, and very varied coaching environments and practices) means that logic models of isolated elements or strands of the interventions are not particularly useful. By their very nature, such complex interventions are multi-variable and interdependent in their impact.

⁴⁴ McGraw, S.A., Sellars, D., Stone, E., Resnicow, K.A., Kuester, S., Fridinger, F., CHES, and Wechsler, H. (2000) 'Measuring implementation of school programs and policies to promote healthy eating and physical activity among youth'. *Preventive Medicine*, 31: S86–S97.

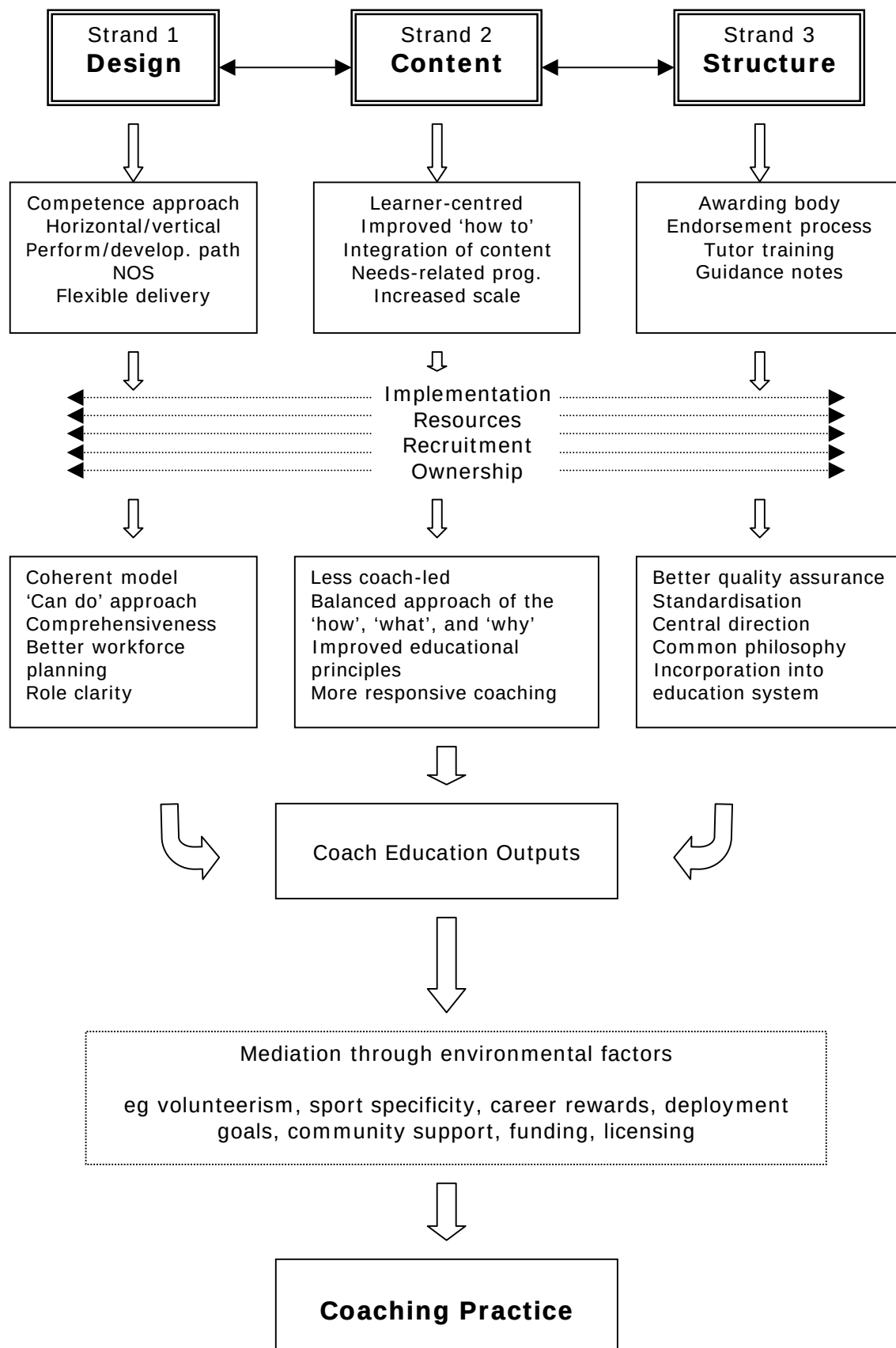
- 3.4 The following figures are presented:
- 3.4.1 A skeleton framework for the model
 - 3.4.2 An outline summary
 - 3.4.3 An elaboration of each stage of the model
 - 3.4.4 An overview of the model;⁴⁵
 - 3.4.5 A likelihood of impact model. This can also be thought of as a 'change model', insofar as it identifies the factors likely to impinge on the successful implementation of the intervention.
- 3.5 There was some consideration of a 'stranding' component of the model. However, it became obvious that the various features of the UKCC were inter-related and were acting in concert, and that it would be impractical (and conceptually inappropriate) to separate these strands in their impact. Although it might be possible to offer broad categories of change, and that each component could be 'checked' for implementation (and it is recommended that this forms part of the impact evaluation), the influence on coaching practice and longer-term outcomes is not only dependent on an aggregation of coach education components, but also on a similarly widely acting set of environmental factors.
- 3.6 Figure 1 illustrates the potential for 'stranding', but also that the component parts are mediated by many environmental factors before reaching the impact stage. By way of illustration:
- 3.6.1 Tutor training improvements will influence not only quality assurance and standardisation, but also the quality of the learning programme.
 - 3.6.2 The competence approach will enhance role clarity and workforce planning, but also standardisation.
 - 3.6.3 The horizontal/vertical and developmental/performance pathways will increase comprehensiveness, but will also lead to the UKCC being more responsive to individual needs.
 - 3.6.4 There are a number of objectives (eg standardisation and improved quality control) that are influenced by almost all changes.
 - 3.6.5 The component parts within the strands will also act in concert.

This inter-relatedness should be viewed as a strength of the UKCC, although it should be noted in passing that, when combined with the scale of the change, this leads to some challenges for the design of an impact evaluation.

[Note: Figure 1 is presented as an illustration of the component strands; it is not intended to be a definitive model of the UKCC.]

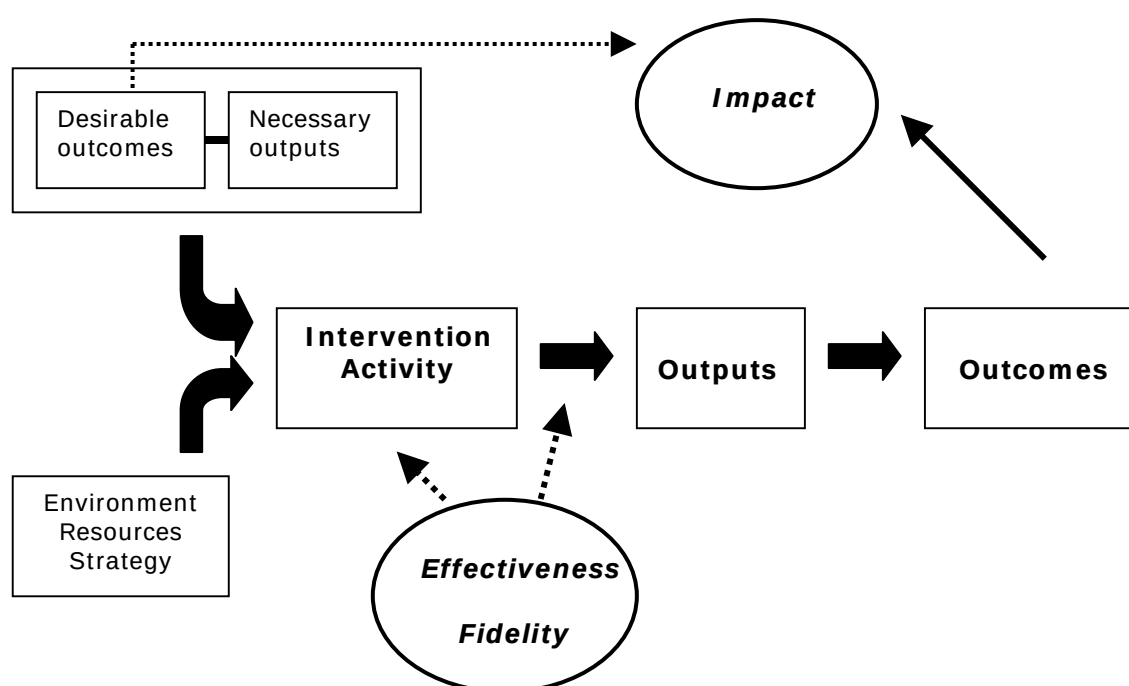
⁴⁵ With such an elaborate model, there is some difficulty in 'capturing' the overall picture in an easy-to-comprehend fashion.

Figure 1: UKCC Component Strands



- 3.7 Figure 2 is a simplistic representation of a logic model. This is presented to assist with interpretation of the more detailed models to follow. The starting position is the desirable outcomes (implying both the baseline situation and the outputs that the intended intervention can change). The intervention activity is then designed and implemented. This leads to the intervention outputs (for example, the changes to coach education), and these, in turn, assist in bringing about short- and long-term outcomes. There are two evaluation interests: the effectiveness of the intervention in changing the outputs (incorporating a measure of the extent to which the intervention was operationalised as planned), ie fidelity, and the change in the outcomes, ie the impact. The logic model for a specific intervention provides the detail that illustrates which factors are involved at each stage.

Figure 2: Basic Logic Model Components



- 3.8 Figure 3 provides an outline summary of the UKCC logic model, building on the basic structure identified in Figure 2. The addition of the strategic coordination (external to the UKCC) and the barriers at each stage of the operationalisation is an indication of the factors that will affect the likelihood of change.

The outline summary applies the generic logic model to the UKCC intervention, but still with a measure of overview. The intended outcomes are partly derived from the parameters established by the task force, and informed by a consideration of existing weaknesses in the current system. The model then indicates that the factors leading to coaching practice are considered and a determination made about those aspects that the UKCC is intended to change. The potential changes are further examined in the light

of the evidence and opinions available, ie the research literature, the evidence from comparable systems elsewhere, and the views of stakeholders, derived from consultations. The intervention – the UKCC – is then designed within a set of guiding principles and accompanied by a strategy for implementation. This change process will take into account the infrastructure, rewards, promotional, management and delivery elements, with some consideration of the nature of change and its perception among key stakeholders.

The resultant intervention practice leads to intervention output, ie the scale (number of courses, dissemination through the system) and the behaviour changes or specific outcomes, perhaps expressed as competences, resulting from the coach education programmes. These direct outputs from the UKCC will then impact on the intermediate outcomes; in this case, coaching practice. The relationship between coach education and coaching practice is not direct and there are many factors to consider in determining the scale of the change in coaching practice (both at the level of the individual and in the quality of coaching more generally). The intermediate outcomes then impact on the outcomes, to which they generally make a partial contribution. The contribution of coaching to the raising of performance standards, specific preparation for events, competition success, facilitating the recruitment of participants or other social objectives is presumed, although challenging to document.

The logic model is a model for change, but the change element can be identified more precisely. In order to describe the likelihood of change taking place, it is necessary to consider the potential barriers to implementation and effect. The outline summary model illustrates this by indicating the points at which the barriers should be considered (colour coded in green). An evaluation strategy is focused on several parts of the overall process:

- the design and strategy adopted for the intervention
- the extent to which it has been delivered as intended
- the extent to which the intervention has brought about the desired outputs from coach education
- the impact, or changes, in coaching practice
- the effect of these changes on longer-term outcomes.

[Note that the diagram has been divided into a number of stages. This is to assist with the 'siting' of the component parts of the model within the overall picture. Each of the component parts has an accompanying diagram to illustrate its place in the overall model.]⁴⁶

3.9 The UKCC logic model is now detailed for each of the four stages. [The four stages were selected merely for ease of presentation.]

⁴⁶ It may be useful to point out that there has been a modest element of colour coding to differentiate between components.

Figure 3: UKCC Logic Model (a) Outline Summary

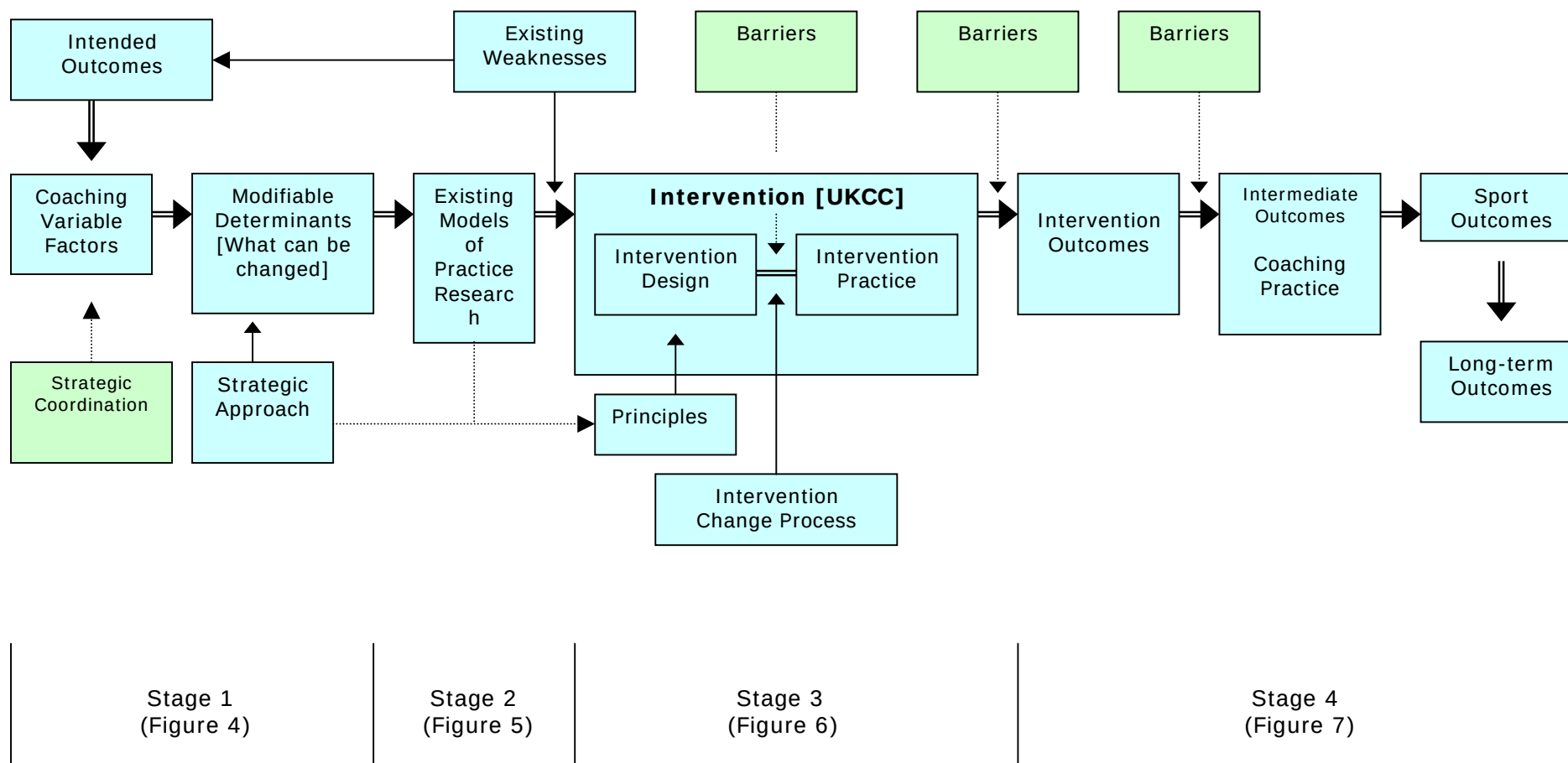
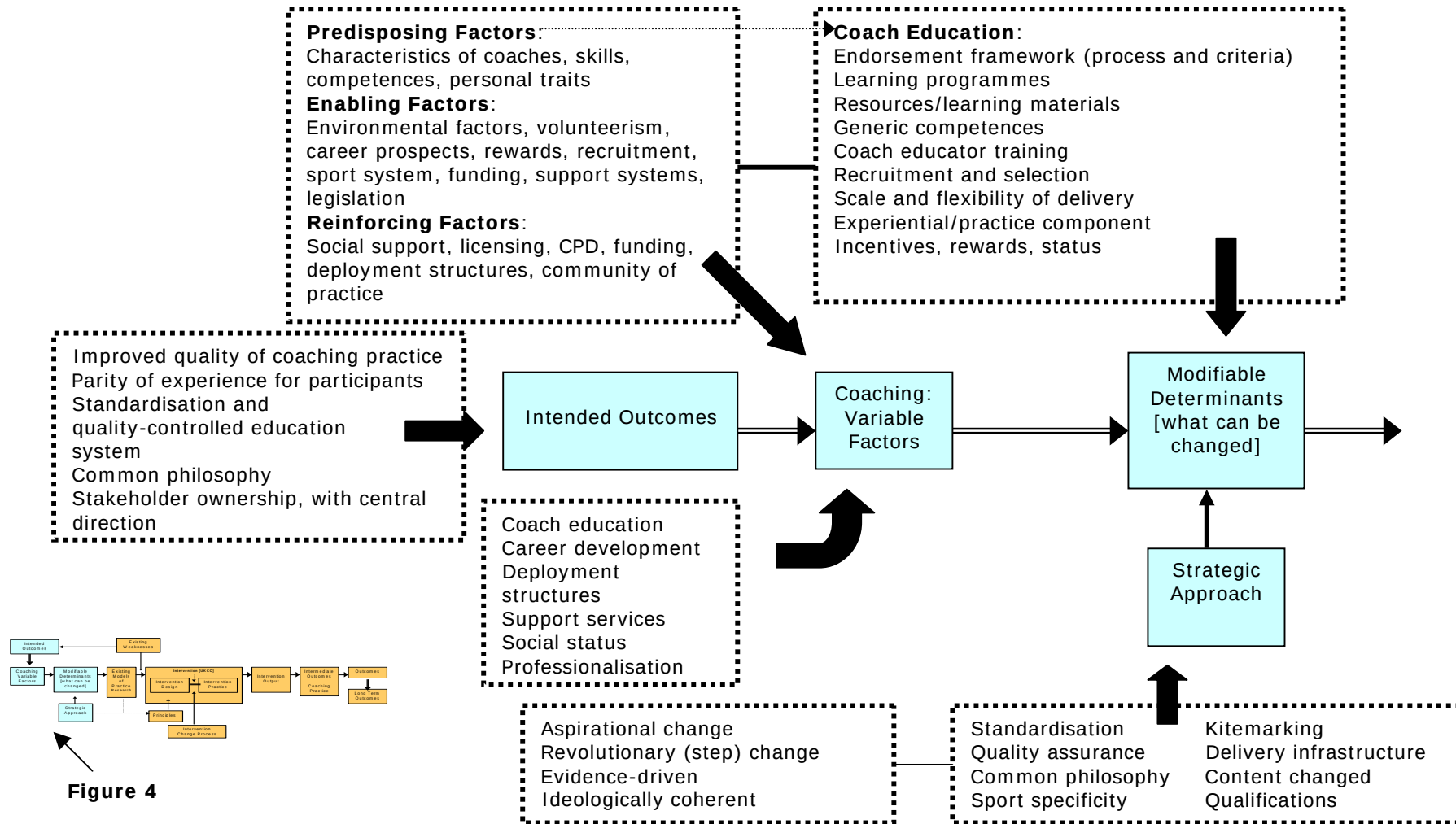


Figure 4: UKCC Logic Model (b) Stage 1 Elaboration



Stage 1:

The variable factors in coaching are categorised as predisposing, enabling, or reinforcing. The predisposing factors are the coaches' personal characteristics and developed expertise. Clearly, it is this that coach education is intended to change (improve/enhance). The enabling factors identify those elements of the system that will impact on the coaches' expression of that expertise (coaching practice). There are also reinforcing factors that act to maintain the positive effects of the UKCC-inspired practice. Each intervention will take a strategic view of the extent to which it can bring about change (or act within a more overarching set of policies and initiatives) in the practice environment. This part of the model also identifies those aspects of the intervention (ie a national coach education system) that can be changed (and need to be, to be coherent and comprehensive). At this stage, it is also possible to detail the broad principles that will help to determine the design of the intervention.

Stage 2:

The design of the intervention is informed by two sets of evidence:

- perception and evidence of existing weaknesses in the system
- research evidence and comparison to developments elsewhere.

The weaknesses may partly be determined by feedback from existing 'users' (NGBs, coaches, tutors, awarding bodies) and by distance and departure from established principles of practice. These principles may be an accumulation of practice from other coach education systems, and those derived from the intended outcomes (for example, standardisation or common philosophy). In this instance, there is a relative paucity of research evidence on large-scale coach education programmes; indeed, on most aspects of coach education. It may be necessary, therefore, to inform the design by evidence from related practices; for example, from good practice in education and education research.

Stage 3:

The intervention design provides details on the key features of the intervention. This is important because it characterises the intervention (the UKCC) and how it differs from other interventions. It may also be possible to identify those elements of the intervention that are considered to be priorities or essential for a successful initiative. The principles of the design are identified, with some indication of what this would mean for operationalising the intervention. For example, a principle of 'flexibility' might be translated into different pathways, benchmark statements and so on. A change process can be described in its principle elements, and this leads to intervention practice. In an ideal world, the implementation would match the design and planned 'roll-out'. It is likely, in the real world, that there will be some barriers to this ideal practice. It is important for the evaluation of the intervention that the 'fidelity' of the delivery is monitored.

Figure 5: UKCC Logic Model (b) Stage 2 Elaboration

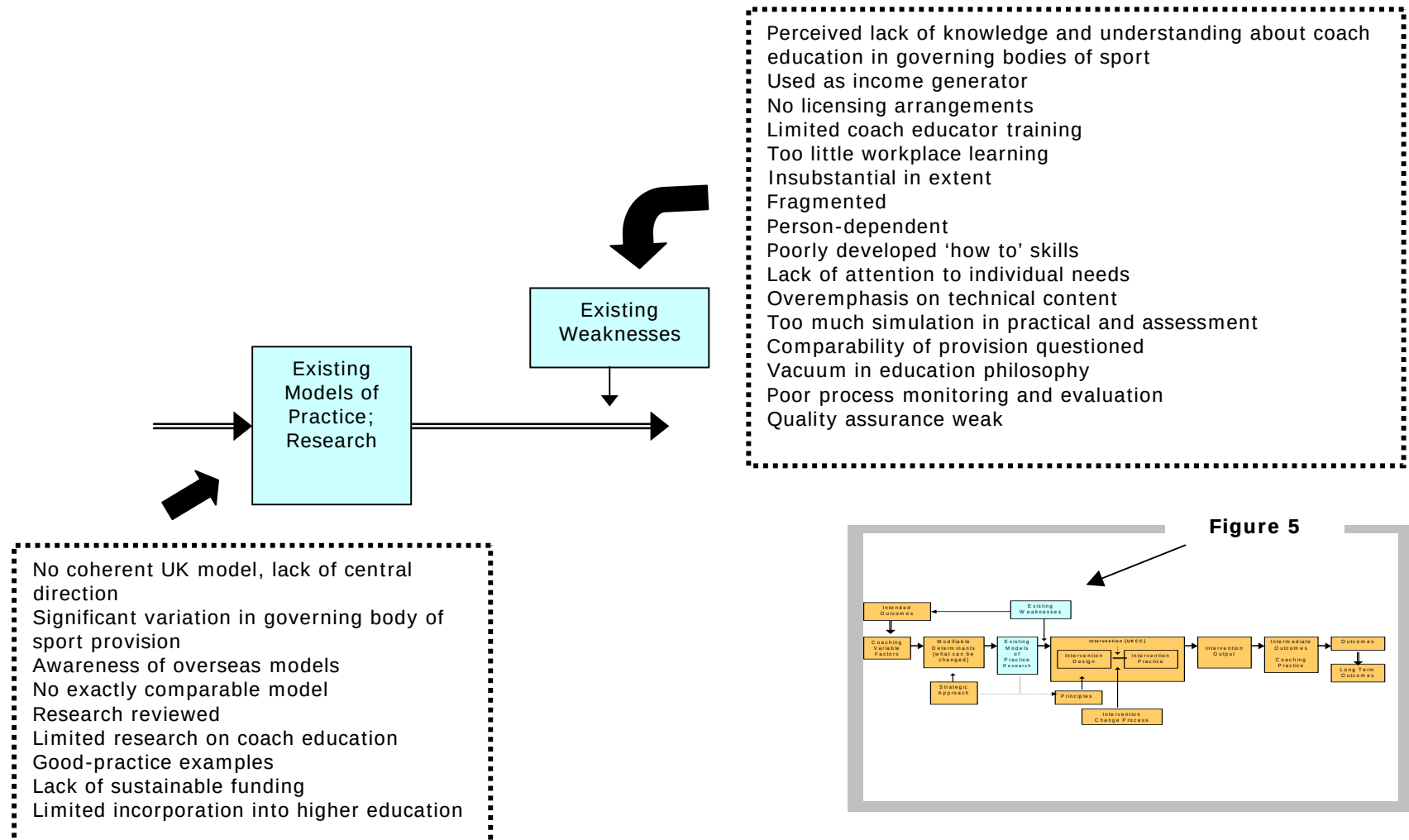


Figure 6: UKCC Logic Model (b) Stage 3 Elaboration

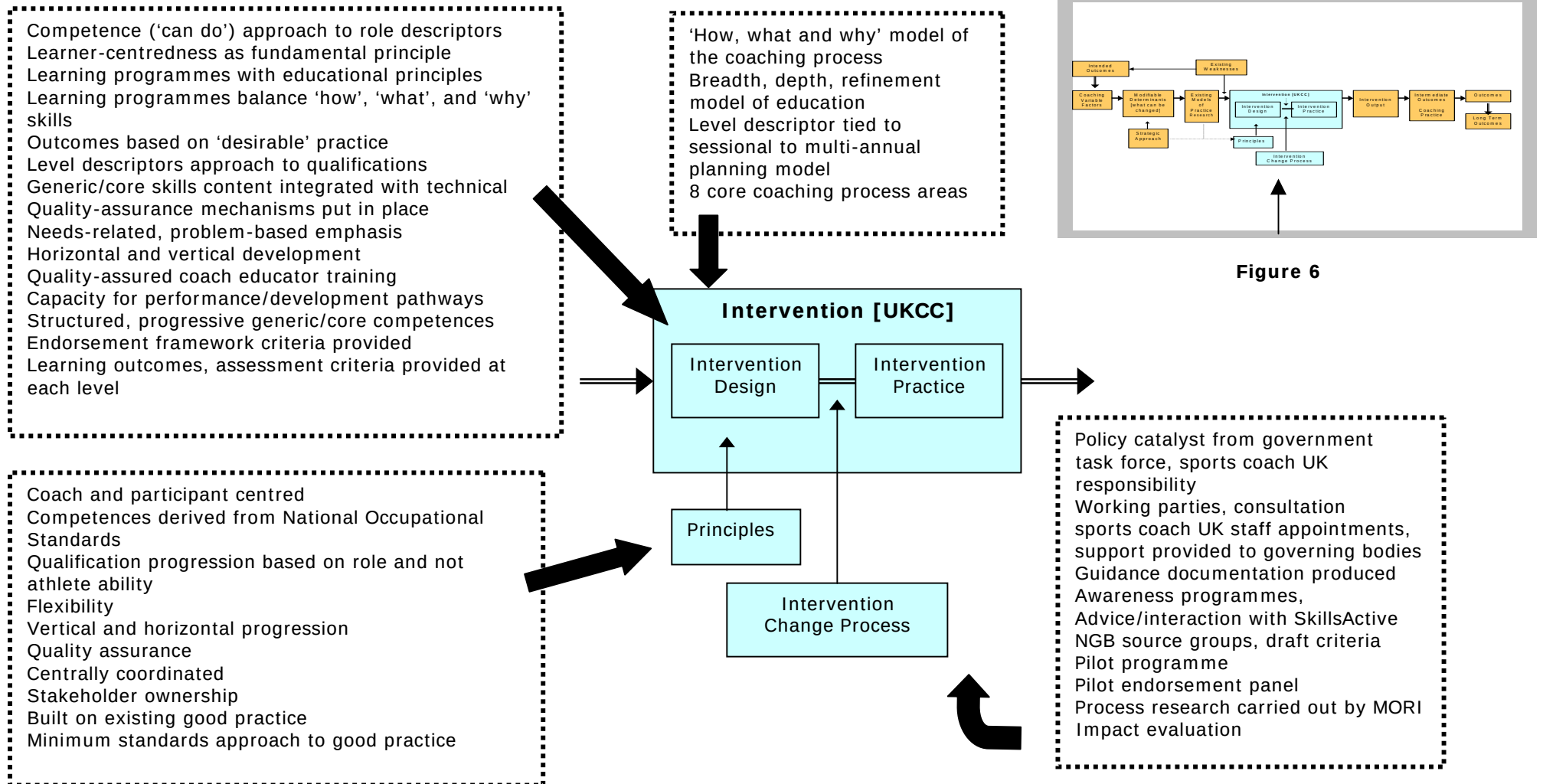
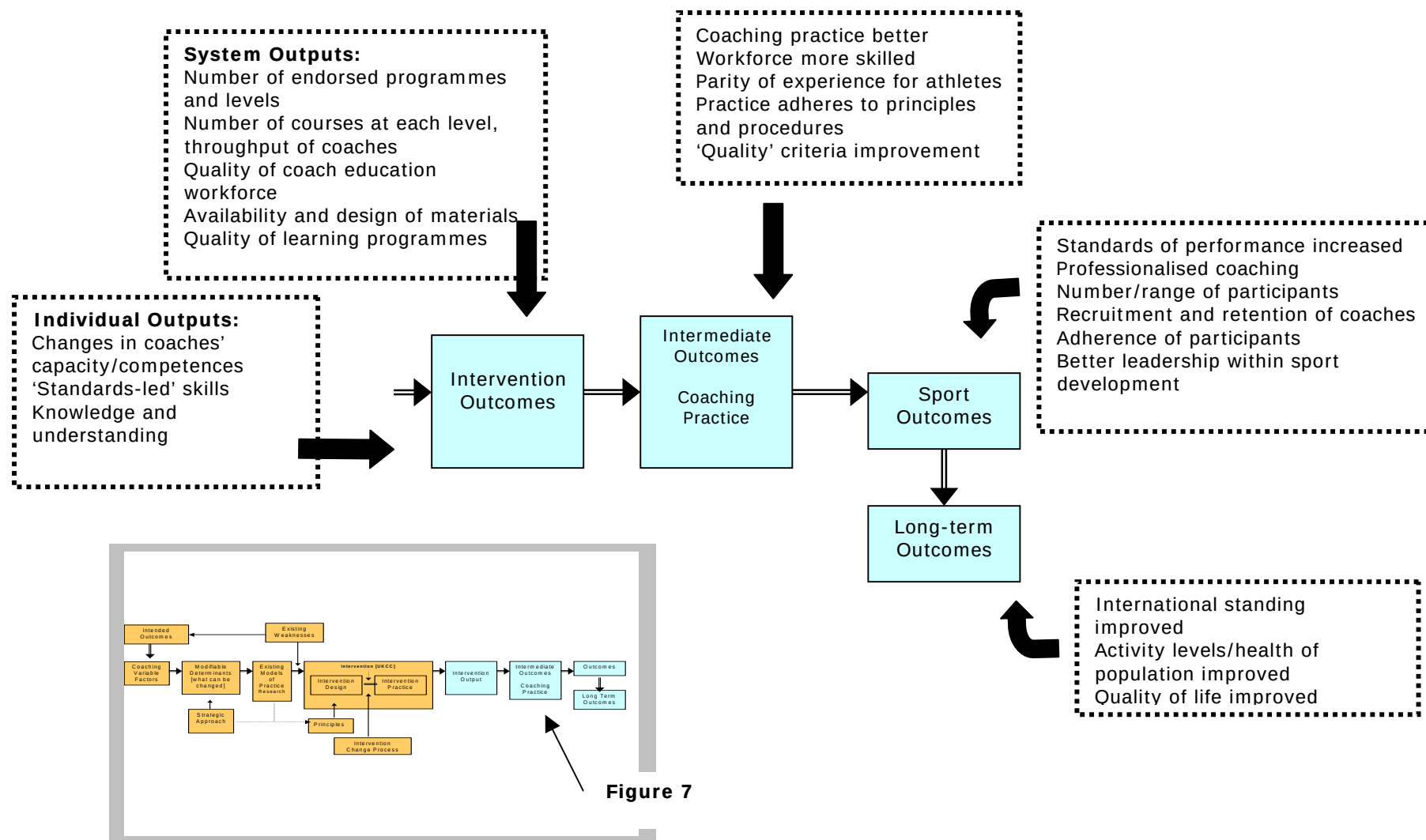


Figure 6

Figure 7: UKCC Logic Model (b) Stage 4 Elaboration



Stage 4:

The intervention leads to a change in the output from coach education. This can be considered at two levels. Firstly, the output is a measure of the 'change in education practice', ie the scale, scope, quality and reach of the UKCC. Secondly, and perhaps more importantly for impact evaluation, it connotes the 'change in status' of the specific learning outcomes associated with the programmes. Thus, a generic core process, such as planning, can be measured (at least in theory) for an improvement in the individual coach's competence, and the overall level of competence following from the UKCC. The outputs from the coach education programmes are intended, thereafter, to influence coaching practice, the intermediate outcome. The logic model should attempt to identify the nature of the change in coaching practice and, by implication, how it would be assessed. The relationship of the outputs to outcomes is difficult to determine precisely, since an output is almost always only a partial contributor to an outcome. This has implications for evaluation, and it may be a significant challenge to identify the 'indicative evaluation criteria' for, say, the quality of coaching, without recourse to those same factors used to characterise the intervention itself. Evaluation of those outputs can then be compared to performance in a series of identified outcomes, each of which will need to be expressed in more generalised terms.

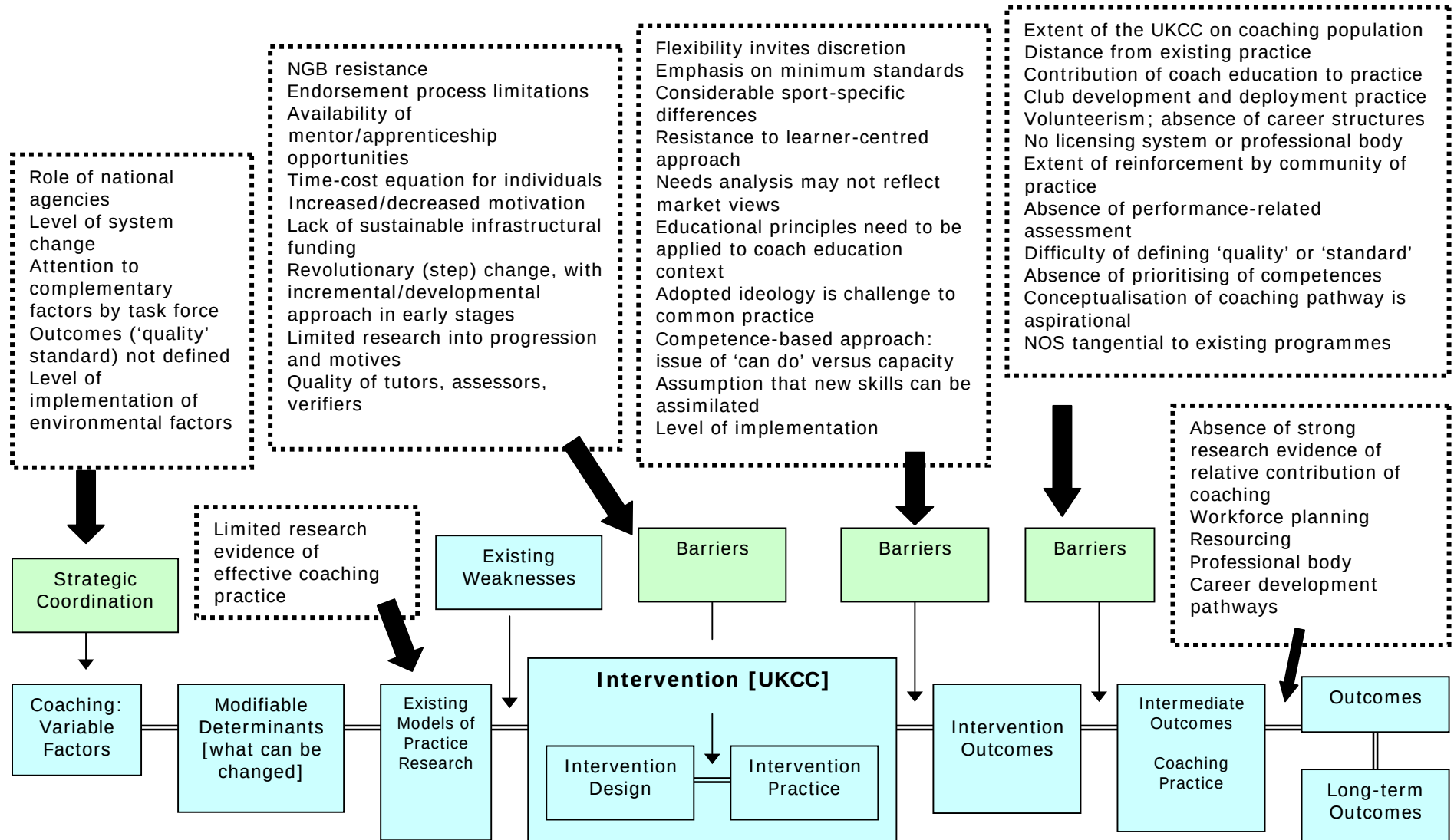
The contribution of the original intervention may be somewhat distant from the final outcomes, but the logic model serves to argue for the relationship between them.

Likelihood Model (Figure 9)

In each of the stages described above, there are indicators of how an evaluation of the UKCC might be carried out. This is one of the benefits of the logic model. However, the model can also be used to identify a number of the potential barriers to the successful achievement of succeeding stages; for example, between design and implementation. This may seem like a list of 'negatives', but in evaluation, it can and may be demonstrated that these potential barriers have been overcome or mediated. Therefore, such a model has a useful function for evaluation, and in monitoring the ongoing implementation of the UKCC.

- 3.10 In the initial stages of an intervention, the logic model serves a valuable purpose in demonstrating the explanations for the strategies and intervention design adopted. It represents the rationale for the intervention and may assist in describing and 'defending' the intervention to stakeholders. It might be argued that deriving the logic model at a subsequent stage may lead to a model 'of' the intervention, rather than a model 'for' (ie more likely to describe the practice than the intention). Nevertheless, the model forms a basic framework for evaluating the intervention, and the final section of the review examines how the impact evaluation might best be structured.

Figure 8: UKCC Logic Model: Likelihood of Impact Factors



4.0 Impact-evaluation Methodology and Proposals

Overview

- 4.1 The first part of this section discusses the issues involved in deciding upon an appropriate approach to the UKCC impact evaluation. The discussion is followed up by a number of detailed recommendations for impact methodology and studies.
- 4.2 At this stage, it is important to summarise many of the key assumptions and recommendations underpinning the proposed impact methods and studies:
 - 4.2.1 System change should be measured against both governing body of sport targets and absolute measures of implementation, to allow for the scale of change to be evaluated.
 - 4.2.2 Output measures from the coach education intervention should be established at an early stage, to become incremental change measures over time. These outputs reflect the changes to the capacity of the individual and are specific to level and context. Each programme has specified learning outcomes, such as improved knowledge or a particular skill. The impact evaluation should select from these to measure the change in individuals' capacity. Interpretation of the 'measures' can be used to demonstrate progressive change in coach education.
 - 4.2.3 Manageable 'markers' of coaching practice should be established as baseline intermediate-outcome measures, and used to evaluate impact over time.
 - 4.2.4 A coach tracking study is established to learn how the individual coach experiences coach education, and how this relates to other personal and environmental factors.⁴⁷
- 4.3 In summary, the factors that have been influential in proposing to adopt this strategy are:
 - 4.3.1 adopting a triangulation-of-methods approach

⁴⁷ The tracking study is not a direct component of the impact evaluation, but the project brief asked for the relationship to a proposed tracking study to be established. It is important that we understand more about how coach education, CPD, commitment to coaching, deployment within club/local authority/schools, etc are managed by individual coaches, and the extent to which they feel that their coaching practice is influenced by such changes. We understand too little at this stage about how coach education is integrated into the life history of coaches and the tracking study will provide the opportunity to monitor this.

- 4.3.2 a phased approach in the research, acknowledging this as the first phase of the UKCC and focusing initially on changes to coach education, rather than coaching practice
- 4.3.3 adopting an establish-implement-monitor-evaluate model
- 4.3.4 not adopting a sport-performance output approach⁴⁸
- 4.3.5 monitoring 'likelihood'⁴⁹ factors, in order to interpret impact evidence
- 4.3.6 emphasising strongly a process-monitoring approach to describe change⁵⁰
- 4.3.7 adopting a cost-effectiveness approach to the questions that need to be addressed
- 4.3.8 bearing in mind the need to present evidence to a range of stakeholders
- 4.3.9 not measuring directly longer-term outcomes, but surveying key stakeholder opinion on the contribution of coach education on a pre-post basis (for example, on attitudes to coaching);
- 4.3.10 adopting a sample and case-study approach to account for the multi-level, multi-component, multi-sport nature of the UKCC
- 4.3.11 broadly adopting an 'impact against targeted practice', rather than 'impact as change from previous', approach⁵¹
- 4.3.12 reducing the complexity of behaviour and practice by adopting a 'key markers' approach⁵²
- 4.3.13 adopting a behavioural scale to assess practice, in order to offer a 'scoring' potential in reporting⁵³

⁴⁸ At this stage in the development of knowledge about coach education, the evaluation is unable to rely on an established relationship between coaching practice/behaviour and sport-performance outcomes.

⁴⁹ These were the barriers identified in the logic/change models.

⁵⁰ Although this is an initial stage, it will be important to continue to monitor implementation and diffusion. It is also important to remember that there will be a distinction between a specific project (for which this report is an output) and the ongoing monitoring and evaluation of the UKCC.

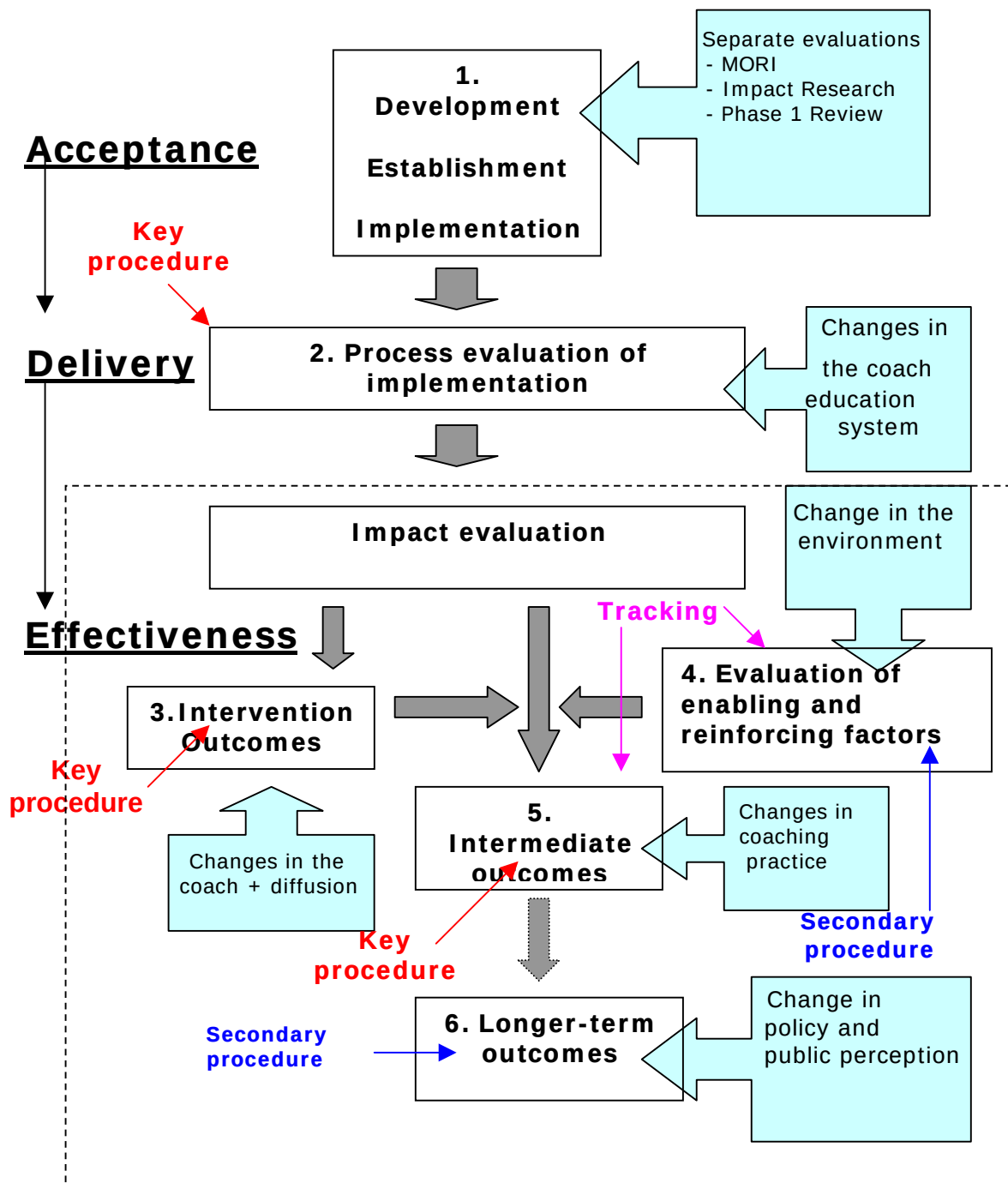
⁵¹ This emphasises the progressive closing of the gap to desirable practice, rather than distance from existing practice, which may still be some way short of the intended practice. The evidence will be available to portray the UKCC as a considerable change from previous practice for promotional purposes.

⁵² Key indicators or 'markers' are used to represent a phenomenon such as coaching, when it would be difficult, costly or unnecessary to attempt to capture the whole process. Clearly, there remains a challenging identification of what might be termed the 'key' markers. It will be necessary to involve stakeholders (and academics) in the final determination of those features of the coaching process and practice that can 'best represent the whole'. The detailed procedures in the final part of this section describe suggested markers.

⁵³ Using a validated behavioural evaluation scale will allow impact 'progress' to be described in quantitative terms, which may be valuable in promoting results in easy-to-comprehend fashion to stakeholders.

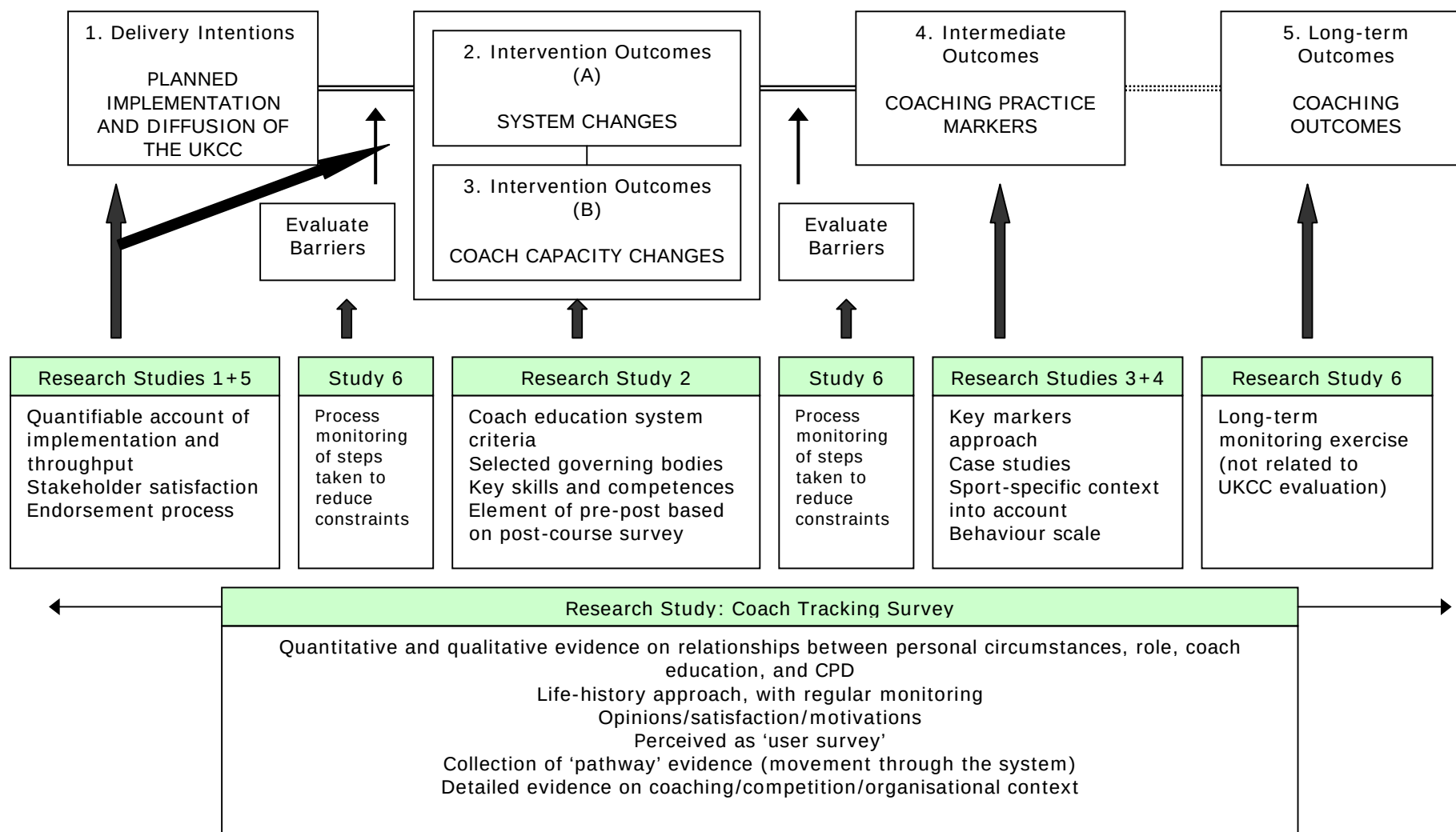
- 4.3.14 giving some emphasis to the key change factors within the UKCC, ie those aspects of coach education prioritised within the UKCC change process (for example, the balance between 'how', 'what', and 'why')
 - 4.3.15 balance between longitudinal study and the desire to provide evidence of more immediately demonstrable impact
 - 4.3.16 adopting a cyclical approach (through years 0–1–2–3–4) to the data collection.
- 4.4 Figure 9 demonstrates how the different elements have been combined (partly derived from the logic model, and partly a process model of the evaluation):

Figure 9: Overview of the Design Rationale of the Impact Evaluation



4.5 Figure 10 provides a further description of the stages in the logic model at which evaluation is sited (cf Figure 3). The diagram refers to Research Studies 1–6, which are subsequently elaborated upon in detail, and summarised in Table 5.

Figure 10: Overview of Evaluation Procedures in Relation to the Logic Model



- 4.6 These design decisions resulted in five distinct investigations (plus the coach tracking survey, which is already taking place) – see Table 5.

Consideration of Methodological Issues

- 4.7 This section incorporates the lessons learned from the interviews, the analysis of documentation and intervention impact methodologies. It rehearses the arguments and challenges to emerge, and gradually refines the approach adopted. In doing so, it often adopts a 'questioning' approach; the responses to which are incorporated into the recommendations.
- 4.8 When measuring impact/change, there are a number of possible emphases:
- change from baseline in desired behaviours (incremental change)
 - simple measures of prevalence of desired behaviours (absolute measure)
 - change against target levels of behaviour (relative/comparative change).

In relation to the UKCC, there are no specific targets set for the extent of the intervention outcomes either in overall scale or individual extent, but there are for system change. There is no specific and system-wide baseline data in relation to coaching practice or behaviours, but this could be obtained if the procedures are enacted quickly. [In time, the absolute measure will be used as baseline, and incremental change can become a target figure.]

- 4.9 A significant number of factors militate against a 'randomised controlled trial' approach to evaluating impact. There are no control groups because:
- all sports are involved
 - the intervention is not prescriptive
 - there is a lack of similarity between governing bodies of sport
 - complementary change in coach education and development is happening alongside the UKCC.
- 4.10 There are also some issues with a simple 'before and after' rationale/methodology directly linked to the UKCC (ie a pre-post-UKCC measurement of coaches' capacity). The changes are being experienced at a system level; whereas, at the individual coaches' level, they would be unlikely to experience the same level of education/training, ie both pre- and post-UKCC on more than one occasion. (Unless done experimentally, coaches will not undertake the same 'level' of certification more than once.) The coaches who have experienced the 'old system' will have their expertise influenced by experience and continuing professional development. It may be possible to control for this in survey design. In practical terms, however, it may be possible to achieve some baseline measures of practice before the new system is fully operational.
- 4.11 To some extent, it must be accepted that suitable baseline measures of outputs of coaches' competences do not exist. For example, there is no existing databank of coaching expertise levels in agreed measures of planning, organising, etc, by level and sport. However, this is, in any case, rather less relevant because, in most cases, the existing system is being replaced, rather than adapted. At the intermediate outcomes level (coaching practice), it will be important to establish norms fairly immediately because it can be argued that the UKCC has not yet had time to influence practice significantly.

Table 5: Recommended Impact Evaluation Methodology Summary

Research Study	Title and Scope	Typical Research Questions	Overview of Procedures
1	Process Monitoring of UKCC Intervention Outcomes - System Surveys of the scale and quality of the changes to coach education	Do learning programmes exhibit the characteristics of UKCC principles? What is the completion rate within UKCC programmes? Is there evidence of increased flexibility in provision?	Questionnaire survey Documentary analysis Observation
2	Evaluation of UKCC Intervention Outcomes – Coaches' Competences Investigation into coaches' capacities following intervention	Which coaching competences have changed most? What are the most enabling factors in change? At which 'levels' of certification is change most evident?	Opinion questionnaire on attitudes to selective coaching skills Structured reflective logs
3	Evaluation of Changes in Coaching Practice – Athletes' Perceptions Investigation into changes in coaching practice	To what extent has coaching practice changed? Which aspects of coaching practice have changed most? Which factors influence change among sports?	Athlete survey of coaching practice
4	Evaluation of Changes in Coaching Practice – Coaches' Perceptions Investigation into changes in coaching practice	To what extent has coaching practice changed? Which aspects of coaching practice have changed most? Which factors influence change among sports?	Case studies
5	Survey of Opinions of Key Stakeholders Opinions of key change agents and stakeholders on change and impact	Is the UKCC incorporated into sporting practice more widely? To which sporting outcomes has the UKCC contributed? How can the UKCC be improved?	Variable-scoring survey instrument Semi-structured interviews
6	Monitoring of the Coaching Environment Monitoring of the enabling and reinforcing factors affecting likelihood and actuality of change	Which major sporting policy changes have influenced the impact of the UKCC? How is the UK Coaching Framework assisting the UKCC implementation?	Stakeholder reviews Policy documentation Literature review
	Research Study 6 includes a synthesis of the findings of the other studies and an overview of the conclusions to be drawn on the Impact Evaluation		
(7)	[Coach Tracking Investigation]		

- 4.12 There are some issues with athlete satisfaction as a measure of impact. In general, athletes express satisfaction with coaching practice and the 'discrimination index'⁵⁴ is therefore minimal. Although pre-post surveys of athlete satisfaction could be conducted, and may have some 'political' value, they would be unlikely to move beyond an unhelpful level of generality. There are also challenges with the pre-post design when applied to the same athletes, since they would have moved on in maturity, experience and expertise, and would be likely to have 'received' coaching at a different/higher level. There are also some issues of athletes' age and capacity to respond⁵⁵, achievement levels, and mixed messages of satisfaction related to goals and achievements.
- 4.13 Should one of the markers⁵⁶ for coaching practice be 'style'? We recognise that coaches operate within an aggregated set of behaviours that reflect their education, competences, personal traits and preferences, organisational context, and athlete characteristics and preferred behaviours. This provides a very complex set of behaviours and argues for a more simplistic approach to coaching practice.⁵⁷
- 4.14 The evaluators need to recognise that, in addition to a time lag between implementation and impact, there may be a process of 'ideological drift' in the diffusion between rationale, design, system changes, coach educator transmission, absorption and sustainable practice.

Ideological drift is a rather theoretical concept. However, its practical manifestation will become evident in the extent to which the findings of the Monitoring of the Coaching Environment research study demonstrates a 'buying-in' to the intended changes, and the monitoring procedures demonstrate a coherence between intentions and practice at all levels. Although this is difficult to qualify, there is potential for an interpretation of any shortfall in changed practice in terms of the 'distance' from the original intention to the coach's practice.

- 4.15 The coach education/minimum competences approach to coaching practice assumes that the prevalence of these minimum standards will raise the overall level of coaching practice.⁵⁸ Is it these minimum standards that should be evident, or should anticipated practice markers reflect some, as yet unstated, quality standards? The challenges to measurement are considerable. In the learning programmes, the assessment is likely to be simulated practice; how the evaluation of individual key competences can be carried out in the more complex reality of actual practice is a challenge

⁵⁴ That is the extent to which research instruments/designs will demonstrate worthwhile differences (see Frith, D.S. and Macintosh, H.G. (1984). *A Teacher's Guide to Assessment*. Cheltenham: Stanley Thorne.)

⁵⁵ There are procedures for overcoming this issue. For example, younger athletes can be given simpler/picture questions, or asked to respond in supportive focus groups.

⁵⁶ To reiterate, markers are an agreed set of criteria that represent coaching practice. This is similar to a set of dimensions or constructs in a survey instrument.

⁵⁷ We recognise that the recent acknowledgement of the complex and 'messy' nature of coaching practice (Bowes, I. and Jones, R.J. (2006). 'Working at the edge of chaos: Understanding coaching as a complex, interpersonal system'. *The Sport Psychologist*, 20, 235–245.) may not be best served by behaviour instruments. However, the capacity to solve problems and contingency skills evident in coaching practice are not easily translated into large-scale research designs.

⁵⁸ This is largely achieved by increasing 'coverage' of coach education and providing accountability and currency (if licensing) through the endorsement process.

for evaluation of all professional practice. One answer is to incorporate case-study examples; another is to adopt a more experimental (controlled) investigation of competences.

- 4.16 The recommended methodology had to consider the point at which the intended changes of the intervention (coach education) should be measured.

4.16.1 If, for example, the competence of sessional planning is to be measured during coach education 'courses', it may be easier to conduct, but provides no context, no stability factor, and no application. It may measure capacity, rather than performance.

4.16.2 If this competence is measured after a specified period of time, the confounding variable is experience and context.⁵⁹ This argues for individual surveys of key competences (the intermediate outcomes arising from coach education) – isolated characteristics of expertise (but removed from contextualised practice, to some extent). This would provide evidence of increased capacity in the coaching workforce.

4.16.3 The 'level' of the coach and the issue of progression within competences should also be considered. Evaluating the outcomes from each stage of the UKCC framework will require measurement at each of those levels, and a progressive set of expectations in competences. This need not be the case in evaluating coaching practice. A strategic decision might be made to evaluate the impact on coaching practice by focusing on what would be considered (and argued to be) the most appropriate roles/levels.

- 4.17 There is a problem of identifying impact on coaching practice, when the impact of existing coach education is unclear. It would be difficult to establish any value-added measures in this situation. However, value-added evaluation may be possible if comparing 'coach-educated' versus 'non-coach-educated individuals', providing a measure of rigour could be exercised over the matching of subjects.⁶⁰

- 4.18 There are further considerations in how coaching practice might be evaluated. This is the intermediate outcome variable, and we would expect to see 'improvement/change' in practice. However, the measurement of coaching practice is not a simple task.

4.18.1 Firstly, coaching practice will include everyone, not just those who have been part of UKCC-endorsed programmes. Secondly, the basic rationale for the UKCC is to improve the general levels of coaching expertise, which is reflective of the competence-based approach to education and training. This is important when one of the competences is to adapt to changing circumstances, but the coach is operating within a set of circumstances that are unique. This makes comparison between coaches very difficult, although it might be

⁵⁹ There is an argument that the actual level of experience to date doesn't matter, because the overall capacity of the workforce (even if not fully developed through practice) may have increased, and this is one of the objectives of the UKCC.

⁶⁰ This is a study that would be valuable, but is not proposed for this impact evaluation.

approached experimentally.⁶¹ However, such an approach becomes too 'reductionist' to usefully reflect applied practice.

- 4.18.2 Coaching practice that is considered 'good' is normally assessed against a set of principles, whereas practice considered 'effective' (albeit there are many definitions) is judged in context and against objectives.
- 4.18.3 Coaching practice is influenced by procedural practice, organisational expectations, the balance of process components, scale and intensity of process and the accommodation between personal, athlete and organisational goals. There is a strong element of sport specificity in practice. Practice is also reflected in athlete satisfaction, coaching behaviours, and sport-performance measures.⁶²
- 4.18.4 Contextualisation is an issue that is identified throughout the rationale (evidenced sport specificity, levels of performance, coaching domains – disability sport, community coaching). This is important and challenging, partly because of the many distinctive sports involved, their different levels of coaching development, and the acknowledged contextual constraints in implementation. The issues might be resolved in research design and can be approached in a number of ways:
 - 4.18.4.1 Evaluate changes in generic aggregative competences intended to accrue from coach education (for example, planning, organising, interacting with individuals), rather than the competences that may be more contextual.
 - 4.18.4.2 Evaluate changes in 'key' factors in outcome measures of coaching practice, to minimise context. (This would require some agreement on what constituted the factors that best represented effective coaching practice.)
 - 4.18.4.3 Accept that contextualisation is very important and:
 - devise 'tracking' research to illustrate the complexity of engagement
 - adopt good process monitoring to identify the active 'ingredients' within coach education and training.
 - 4.18.4.4 Adopt a case-study/exemplar approach.
 - 4.18.4.5 Accept that integrated competences were the intended mechanisms in the UKCC and devise likely models of 'targeted practice' in sample sports.

4.19 The interviewees identified a number of opinions on the impact methodology.

⁶¹ For example, in response to scenarios-type research.

⁶² There is a widely held assumption that coaching practice influences performance outcomes, although the exact nature of the relationship remains unproven.

- 4.19.1 There was an acknowledgement that the changes to coach education were anticipated to result in more positive outcomes of a variety of sorts; for example, better coaching practice would lead to improved recruitment and retention, higher standards of performance, greater levels of personal development, and improvement in comparative results. There was some agreement that these outcomes should be measured, but that they should not (indeed, some said could not) be tied too directly to the UKCC.
- 4.19.2 There was acknowledgement of some of the more practical difficulties; for example, the time period during which the UKCC would be expected to make a significant impact, how to retain the sporting context in measurement of practice⁶³, how to isolate changes that could be associated with a UKCC-endorsed programme in relation to other factors, and the comparability of technical practice across sports.⁶⁴
- 4.19.3 The discussions took place in the context of a likely 'coach tracking' study. This gave the potential for keeping track of individuals' perceptions and profile of skills as they progressed through the coach education programme and other CPD. It would be possible to attempt some form of before-after methodology, plus observation of a behavioural inventory. (It should be noted that the tracking survey is anticipated to be online, and the observation/behavioural survey would be of a sample of coaches.) Throughout the discussions, there was an acknowledgement of the need to establish baseline statistics for whatever measure was employed.
- 4.19.4 The responses reported above focused on the coaches' practice as a result of coach education. However, the most obvious impact would be on the nature of coach education itself. There was a general acceptance that the degree of 'learner-centredness'⁶⁵ would be an appropriate impact criterion.
- 4.20 The option is available to devise a model of coaching practice from the literature. The counter-argument is that a model has already been devised (principles of the UKCC, including guidance documentation) and impact should be measured against its central elements. [Any evaluation of the appropriateness of the model would be a separate exercise.]

Therefore, it may be appropriate to devise coaching practice criteria in relation to the eight generic core elements of the coaching process used to structure Level 1–3 competences⁶⁶.

- 4.21 It is necessary to rehearse the issues relevant to the most appropriate methods for assessing coaching behaviours (for example, self-report, case

⁶³ Interviewees recognised that specific sports differed in their 'environmental' demands; for example, group sizes, communication, balance of performance components and so on.

⁶⁴ Interviewees also recognised that what were termed more and less developed sports (in terms of resource development and practice).

⁶⁵ There was still use of language such as 'the athlete at the centre of delivery'. Although this has some consensual meaning, it would be necessary to identify practice criteria that represented such a construct.

⁶⁶ There may be some question as to whether these are appropriate at Levels 4 and 5. At this stage, however, the development of Level 4 and 5 programmes is some way behind, and the impact is expected to be felt by fewer coaches. A variation of the generic elements, related to context, may be more appropriate.

study, validated behaviour instrument). The intention is to measure both the output of the UKCC (to 'see if the system works') and its impact on coaching practice. Broadly, the most appropriate approach would be to assess the targeted skills at the UKCC (intervention) stage, and the coaching practice in a more holistic fashion over a period of years. The issue is how to assess each of these two stages. A behavioural assessment scale may be sufficiently precise and targeted for the intervention outcomes, but not sufficiently holistic to reflect practice. However, an established 'scoring' measure has its attractions.

4.21.1 It is also a consideration that any coaching practice measure – if carried out on a wide sample across sports basis – will embrace many more coaches than those who have experienced the UKCC. This can be controlled by research design. The question, therefore, is whether it would be appropriate solely to assess the coaching practice of those who have recently experienced the intervention, on the grounds that any change in that population can be argued to impact on the desired direction of the total population.

4.21.2 There is also the need to have a degree of rigour and a degree of generalisability in the evaluation. Therefore, the individual reflective accounts of behaviour and case-study approaches (although they will have a significant place in the evaluation) may usefully be accompanied by a more objective measure.

4.21.3 Another factor to be considered is that the impact evaluation may be thought of as 'policy research'. While there are arguments on both sides, the principle is that the policy guidance (the answer to the impact question) is more important than the precise rigour of the methods employed (without, of course, compromising the basic standard of research design and conduct). This may be influential in deciding between a validated behaviour scale and a customised design.

4.22 Ultimately, the role of the consultant and the review is to make proposals. It is important to acknowledge that the resolution of the challenges highlighted is a best-fit solution, and is obviously open to revision by the client. The solutions proposed are based on:

4.22.1 designing procedures specific to the UKCC

4.22.2 not initially being constrained by cost or practicality (the proposals may be more complex than would be desirable and this will be subject to negotiation between client and subsequent research team)

4.22.3 accepting a strong focus within the evaluation on the 'key changes' anticipated from the UKCC, rather than moving to an impact evaluation of coach education in general⁶⁷

⁶⁷ The review has already discussed the possibility that the 'key changes' brought about by the UKCC, particularly at Levels 4 and 5, may not be those that impact the most on practice, nor are influential in securing improvements in sports coaching outcomes. Thus, it may be that environmental factors, rather than individual coaching competences dependent on coach education, will be more influential in increasing standards of performance. On the other hand, if, in any particular sports, the introduction of improved coach education at Levels 4 and 5 is a significant departure from (improvement on) what existed previously, it is anticipated that this will be captured by the various methods employed.

- 4.22.4 accepting a significant element of qualitative evidence, particularly case examples for illustrative purposes, and to capture the holistic nature of practice
- 4.22.5 the fact that none of the behaviour scales available provide a complete picture of coaching practice. However, the Coaching Behaviour Scale for Sport⁶⁸ is particularly interesting because a number of the sub-scales reflect the ideology of the UKCC.
- 4.23 This section goes on to describe proposals for appropriate research aims and objectives and to detail each of the components of the impact evaluation. In each case, it will be necessary for the research teams involved to devise appropriate tools. Illustrations are given in each case of the approach that might be adopted.⁶⁹ Clearly, it is necessary to give sufficient details to describe the methodological approach, but it is also assumed that the final detail of the individual procedures will be subject to amendment by those responsible for implementing/applying the broader direction of the methodology. No consideration has been given in the proposals to the cost-effectiveness of their implementation. The recommendations are predicated on providing comprehensive evidence. The scale and scope of each component part can, of course, be subject to some flexibility.
- 4.24 Table 6 provides a graphical illustration of the unfolding of the proposed research studies that constitute the UKCC Impact Evaluation.
- 4.25 Reference has been made at several points to the potential procedures associated with the evaluation of markers of coaching practice. Figure 11 summarises these arguments.

⁶⁸ See Cote, J., Yardley, J., Sedgewick, W. and Baker, J. (1998) 'An exploratory examination of the Coaching Behaviour Scale for Sport'. *AVANTE*, 5(3), 82–92 and Mallett, C. and Côté, J. (2006) 'Beyond winning and losing: guidelines for evaluating high performance coaches'. *The Sport Psychologist*, 20, 213–221.

⁶⁹ The sample sizes might best be considered indicative. The final decisions will be based on decisions about the methodology and the costs of implementation.

Table 6: Timetable of Research Studies

Research Study	2007				2008				2009				2010			
	Jan			Dec	Jan			Dec	Jan			Dec	Jan			Dec
1 Process	Documents				Documents				Documents				Documents			
Monitoring		Survey				Survey				Survey				Survey		
			Observation				Observation				Observation				Observation	
2 Coach	Log1		Log1				Log1									
Outcomes					Log2		Log2				Log2					
									Log3		Log3				Log3	
3 Coach			Survey 1								Survey 2					
Practice																
4 Case							Case Studies								Case Studies	
Studies																
5 Opinion	Survey				Survey				Survey				Survey			
Stakeholder			Interviews				Interviews				Interviews				Interviews	
6 Context	▶															
Monitoring															Synthesis	
	Interim reports				*				*				*			

Figure 11: Measuring Coaching Practice

One of the fundamental assumptions from the logic model for the UKCC is that the intervention will lead to improved coaching practice – at least insofar as coach education certification programmes and associated CPD impact on coaching practice. This 'indirect' cause and effect, or the contributory nature of the UKCC intervention, is one of the challenges when carrying out the impact evaluation.

However, it is not a straightforward matter to 'measure' coaching practice. The following factors need to be taken into account:

- Coaching practice is a broader, more all-embracing concept than coaching behaviour. Coaching practice will include the more discrete coaching behaviours and aggregations of behaviour into competences. However, coaching practice assumes the context (organisation/agency, commitment, accountability, sport specificity, role) and is more focused on 'performing' than on the underlying capacity of the coach (skills and knowledge). For example, the coach may have certain capacities related to personal relationships, knowledge of growth and development, or planning, but these are not reflected in practice. One of the essential parts of the context is the athlete/team. The coach's practice is likely to be determined in diverse ways by the characteristics, aspirations, commitment, ability and so on of those being coached.

- Any research into coaching practice associated with the UKCC would have to take into account these contextual factors, differentiated by:

- level of award
- sport
- level of performer
- coaching domain.

It is also important to state that the purpose is less to conduct research than to provide a satisfactory evaluation tool.

- There is a widespread acceptance that coaching practice expectations will differ at each level of certification (or role descriptor). Evaluation of the practice has to be carried out against those expectations. However, the issue of 'whose expectations' is partially obviated by the need in the impact evaluation to demonstrate (hopefully positive) change.
- There is a process/product issue. Coaching may be represented by a process model (at least figuratively) and this would have the power to describe whether parts of the process considered important were in place; for example, goal setting, planning documentation, analyses of performance, feedback mechanisms and so on. However, this can be taken further to embrace the 'product', ie the effect that the processes have on the athletes or whether they were carried out in accordance with good or accepted practice.

The current level of academic discourse of representing (or modelling) the coaching process or coaching practice has not reached a consensus point at which there is sufficient weight to any particular characterisation of coaching, although there is a recognition of the issues. These are centred on the extent to which models are derived from research into practice (models 'of') or derived from theoretical or conceptual assumptions (models 'for') (Abraham et al, 2006; Cushion et al, 2006). There is an increasing literature in this field, but it is insufficiently developed to support a procedure that attempts to be all-embracing of coaching practice.

The impact evaluation has a need to measure coaching practice. However, there are a number of methodological choices to consider, and alternative positions that can be adopted:

1. Should the procedures adopted attempt to cover all aspects of practice or could these be prioritised in relation to coach education, and the UKCC in particular?
2. Is it necessary to describe coaching practice in its entirety or would it be sufficient to 'represent' coaching practice?
3. Can a balance be struck between the sophistication of the 'model of practice' and an effective but simple scoring system?
4. Should practice markers be measured by their presence, by quality of execution or by both?
5. Should the markers be measured by their perceived impact on the athlete, and evaluated against strength-of-response indicators?
6. Should coaching practice markers be assessed at all levels or at a representative level and/or in a combination of coaching domains?

The recommendations in this report are given in the light of:

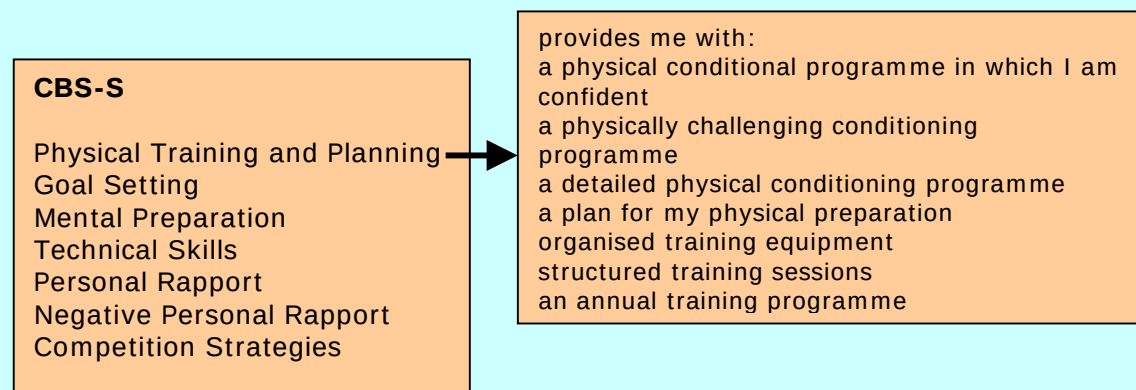
1. the absence of a consensus academic position on describing coaching practice, and the fact that any new recommendation could not be defended as a agreed position without a significant element of research
2. the fact that the priority goal is a simple scoring system that will allow change to be described to stakeholders
3. the fact that, although it might be desirable that an evaluation tool could be applied across all levels of coaching, there is merit in identifying a headline domain that is easily communicated and can be defended as a 'notable' representation of coaching.
4. The UKCC adopts a competence approach at Levels 1, 2 and 3. It is, therefore, a defensible stance to focus more on the coach's behaviour and not to try to embrace the full context (making the assumption that the expressed performance of coaching will take into account the factors impinging on it). This permits a focus on observable elements of practice.

It is therefore recommended that: the procedures adopted should:

1. represent coaching practice, rather than attempt to describe it in complete detail
2. be based on athlete perceptions/response to practice
3. focus on a representative domain – club coaches – that can be linked to the overall improvement of athletes in preparation for the Olympics
4. include an instrument that will permit evaluation of practice across sports
5. be balanced with illustrative material on coaching practice (case studies).

Table 10 describes the procedure in more detail. It is recommended that the Coaching Behaviour Scale for Sport (CBS-S) (see Cote, J., Yardley, J., Sedgewick, W. and Baker, J. (1998) 'An exploratory examination of the Coaching Behaviour Scale for Sport'. *AVANTE*, 5(3), 82–92 and Mallett, C., and Côté, J. (2006) 'Beyond winning and losing: guidelines for evaluating high performance coaches'. *The Sport Psychologist*, 20, 213-221.) should be used as an appropriate tool.

A review of literature dealing with coaching practice (for example, Abraham et al, 2006; Lyle, 2002; MacLean and Chelladurai, 1995) finds some consensus around the key elements of practice as preparation, planning, competition, organisation, administration, monitoring and recording, 'handling' athletes, pedagogy/delivery, and managing competition. (These are illustrative.) The CBS-S has the advantage of capturing these elements and being a validated testing instrument. Each of the main items is further subdivided. The scope of the scale is illustrated below:



[Based on Mallett and Cote, 2006]

4.26 Overview of the proposed impact-evaluation purpose, strategic aims and objectives (Table 7):

Table 7: Impact-evaluation Project Aims and Objectives

Research Purposes	
It is intended that the UKCC Impact Evaluation should provide robust evidence for the following purposes:	
1.	To evaluate research questions about the design, establishment, operationalisation, and impact of the UKCC.
2.	To derive explanations for the degree of successful impact.
3.	To enable the ongoing development of the UKCC.
4.	To contribute to the generation of good practice and an evidence base for policy and practice in coach education.
Strategic Research Aims⁷⁰	
At the end of the four years of the UKCC Impact-evaluation Project, the following strategic research aims will have been addressed. The Impact Evaluation will have described and evaluated the extent to which the UKCC has:	
1.	been implemented successfully (ie in relation to intentions)
2.	been effective, ie has resulted in: - the intended coach education outcomes (coach competences) - improved standardisation and parity of experience in coaching qualifications and coach education (system efficacy)
3.	improved the quality of coaching practice
4.	contributed to strategic coaching developments (ie professionalisation and other sport policy objectives)
Principal Research Questions	
Addressing the above aims successfully will have been facilitated by resolving the following research questions (which have been incorporated into the research design) – the research studies that contribute to each question are identified:	
1.	What is the difference in coach qualifications and education, in terms of philosophy, structure, content and delivery pre- and post-UKCC?
Research studies: 1, 5	
2.	What is the scale of the implementation and delivery of the UKCC across sports and levels of award over a four-year period?
Research studies: 1, 6	
3.	How is this delivery differentiated by level, experience, demography, geography, gender and ethnicity?
Research studies: 1, 6, 7	

⁷⁰ The overall aims are contributed to by each of the individual projects. There is a hierarchical aspect to them, in the sense that each is a prerequisite for the one that follows.

4.	Which factors can be shown to influence diffusion?
Research studies: 1, 5, 6	
5.	What is the perceived impact of a change in infrastructure (endorsement process, quality assurance) and approach (philosophy, delivery) on coach education?
Research studies: 4, 5, 6, 7	
6.	Which factors act as barriers and facilitators to recruitment and delivery?
Research studies: 1, 5, 6	
7.	What is the impact of the UKCC on the outcomes of coach education, ie on coaches' learned attributes?
Research studies: 2, 4	
8.	Which competences are changed most; which are resistant to change?
Research studies: 2, 4	
9.	What are the views of principal stakeholders and change agents on the effectiveness of the UKCC on the process, management and long-term aspirations for coach education?
Research studies: 5, 6	
10.	Which aspects of coaching and sport provision act as enabling or constraining factors?
Research studies: 5, 6	
11.	Does the UKCC-endorsed learning programme template create an effective learning environment?
Research studies: 1, 2, 5	
12.	Has the UKCC contributed to improved learning, compared to previous approaches?
Research studies: 4, 5	
13.	Which aspects of coaching practice have been impacted on by UKCC-endorsed coach education?
Research studies: 3, 4, 5, 7	
14.	Can it be demonstrated that the UKCC-endorsed coach education and qualification system results in more effective coaching being delivered to participants and performers?
Research studies: 3, 4	
15.	Which contextual factors act as barriers and facilitators in relation to coaching practice?
Research studies: 3, 4, 5, 6, 7	
16.	Which delivery mechanisms are demonstrated to be the most effective for coach education and the UKCC?
Research studies: 1, 4, 5, 7	
17.	Are these mechanisms different at Levels 4 and 5?
Research studies: 1, 4, 5, 7	
18.	How extensive and effective is the coach education workforce network in each sport? Does it act as an enabler or constraint?
Research studies: 1, 5, 6	
19.	What is the role played by mentors and the 'community of practice' in the UKCC; is this an enabling or constraining feature?
Research studies: 1, 4, 5	

20.	What are the views of change agents on the particular aspects of the UKCC to have had the greatest impact on coach education (specifically 'system elements', learning programmes, integrated programmes)?
Research studies: 5, 6	
21.	Were the practice markers used a useful representation of coaching practice?
Research studies: 3, 4, 5	
22.	What combination of procedures has proved to be the most effective in providing evidence of change in practice over time (for example, systematic behavioural inventories, key marker indicators, nearness to modelled behaviour, reflections on practice, case exemplars)?
Research studies: 3, 4, 5	
23.	Which contextual factors (level, role, sport, resources, goals) account for variations in impact?
Research studies: 3, 4, 5, 6, 7	
24.	What lessons have been learned to inform and improve the development of coach education in the future?
Research studies: 1, 2, 3, 4, 5, 6, 7	
Coach Tracking Study	
Although not analogous to the Impact Evaluation, the proposed coach tracking study will address a number of issues that will shed light on the impact of the UKCC. The following questions will be relevant (but are not intended to be an exhaustive list of research objectives for the tracking study):	
1.	How can the effects of other interventions, personal factors and experience (education, lifestyle, career choices, personal characteristics, CPD, role changes) be disentangled from the impact of the UKCC?
2.	Does the UKCC-endorsed coach education and qualification system meet the expressed needs of coaches?
3.	What can be learned from coaches' progression through coaching qualifications and other learning experiences to influence the design and delivery of the UKCC?
4.	What is the relationship between recruitment into coaching and participation in the certification process?

4.27 Table 8 describes Research Study 1: the proposed investigation into the 'fidelity' of the implementation of the UKCC.⁷¹

Table 8: Research Study 1

Research Study 1 Process monitoring of UKCC implementation: Intervention outcomes at the system level	
Considerations: - It is necessary to be able to describe the detail of the implementation of the UKCC in each year of the impact evaluation. - The monitoring is focused on the extent to which the UKCC is being implemented, as it was intended/designed. Therefore, the researchers need to be clear about targets and intended system performance criteria. - It would be preferable if the methods employed resulted in easily collated and presented data. - The UKCC is a complex initiative, and the potential configurations of level and discipline need to be incorporated.	
Research Aims and Questions: The study addresses the following: strategic aims – 1, 2 principal research questions – 1, 2, 3, 4, 6, 11, 16, 17, 18, 19, 24 More specifically: - Is there parity of provision across sports? - What is the extent of the training of the coach education workforce? - What is the level of throughput of UKCC-endorsed certification courses versus targets and pre-UKCC status? - Is there a pattern of implementation delivery? - Are there established support networks (mentors, formal apprenticeships, community of practice processes)? - What is the level of successful completion of programmes? - Is there evidence of flexibility in recruitment, delivery and assessment? - Have good-quality resources been provided to support learning? - Is there evidence of adequate scrutiny/quality assurance? - What are the barriers and facilitators to successful implementation? - Do learning programmes exhibit appropriate principles of adult learning?	
Method	Questionnaire/survey instrument to all/sample governing bodies of sport - Twin focus: - throughput - system status - Documentary analysis - Observation of delivery

⁷¹ The table refers readers to the principal research questions addressed by the study, which can be found on Table 7. More specific research questions are also identified, but these should be interpreted as indicative, rather than exhaustive.

Procedures	1. Postal survey, based on throughput and system status criteria, follow-up by telephone/relationship managers, completed on a yearly basis. 2. Documentary analysis of sample of six sports' endorsement materials, evaluated for parity of programme demands. 3. Learning programmes evaluated by series of 12–18 observations, assessed against observation inventory based on: ▪ level of experiential learning ▪ level of simulation of context ▪ balance of technical and generic components ▪ individualisation of experience ▪ evidence of needs-based programming. [These are examples and the criteria will be agreed.]
Instruments	
Throughput: Survey instrument based on throughput within 12-month period: Number of courses by level, where held, number of tutors used, mode of delivery; approved centred agency type Number of participants by course and level, number of completed awards, number and throughput of coach education workforce training Course participants by age, gender, ethnicity, postcode, occupation, sport experience, role CPD events and throughput, number of registered mentors Targets (absolute, relative, incremental).	System Status: Endorsed awards by level, endorsed programmes for coach education workforce; presence/absence of licensing/registration for coaches, mentors Coaches' association, coach apprenticeships, APEL, fast-track opportunities Resources available at each level of award, flexibility of mode Quality-assurance procedures (eg annual scrutiny of management and administrative procedures, bi-annual approval of training providers, quarterly review of recording systems, annual appraisal of efficiency and effectiveness of delivery systems, quadrennial review of content and materials, annual external verification of programmes) Development-performance pathways Horizontal and vertical programme design and delivery.
Issues: ▪ It would be valuable to have audits of coaches within sports in place to permit absolute and relative computation of UKCC throughput. ▪ There may be an initial issue of availability of data. The data is likely to become progressively more accessible over time.	

- 4.28 The following table (Table 9) describes Research Study 2 – the proposed investigation into the intervention outcomes from the UKCC that are related to coaches' competences.

Table 9: Research Study 2

Research Study 2 Evaluation of coaches' competences post-UKCC: Intervention outcomes at the individual level	
Considerations: 1. The investigation can focus on all competences or a selection to emphasise priority aspects of coaches' attributes. 2. The experimental approach to assessing skills has been rejected, because it will reduce the contextual element of application and integration. 3. The broad approach is a progressive before-after methodology. Coaches will complete logs and survey instruments before completing coach education courses and at intervals thereafter. 4. There is always an issue of subject selection and adherence to the investigation. Consideration should be given to 'selling' the research as an extension of the education programme.	
Research Aims and Questions: The study addresses the following: strategic aims – 1, 2 principal research questions – 7, 8, 11, 24 More specifically: ▪ To what extent have specific coaching competences changed over a period of coach education? ▪ Which coaching competences have been demonstrated to change most? ▪ At which levels of certification is change most evident? ▪ Is there any pattern in the characteristics of coaches who have improved their competences? ▪ What lessons can be learned from coaches' accounts of how competences can be reinforced in practice? ▪ What are the barriers and enablers to the development of competences? ▪ Is there evidence of the 'baseline' level of competences becoming improved?	
Method	1. Self-reported opinion questionnaire on coaches' capacity in selected coaching skills 2. Structured reflective logs
Procedures	1. Questionnaires issued at years 0, 1 and 3 to sample of coaches from UKCC programmes (100 coaches at four levels from eight sports). 2. Logs 'issued' to 20 coaches from two courses at three levels in six sports. Logs completed electronically, with reminders

	by email. Each coach will complete a log focused on two from an agreed list of coaching competences, with Levels 4 and 5 focused on knowledge and skills. Logs completed at 0, six months and 18 months ⁷²
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Instrument:

Structured reflective log:

The log will be structured to reflect changes in self-reported capacity, with illustrative incidents and analyses. The general structure is: existing capacity, training lessons, reported implementation, lessons learned, progress made, and repeated. Coaches will be encouraged to set targets, report critical incidents, reflect on capacity, report successes and failures, and identify enablers and constraints. (The electronic logs will be constructed to minimise recording/completion issues.)

Example [Level 2]

Organising people, equipment and resources

Work with individuals while managing a group

1. Identify what this means in your context.
2. Record reflections of current ability and practice (include athlete perceptions).
3. Describe learning programme training and recommendations.
4. Identify targets.
5. Describe attempts to implement behaviour (include athlete perceptions and critical incidents).
6. Reflect on successes and failures.
7. Repeat x times over six months
8. Evaluate change in behaviour, and analyse reasons.
9. Consider individual record keeping, individual goals, specific drills/exercises to target individual needs, reciprocal feedback.

[Advice might be tailored to the progressions necessary for the next level of award.]

Questionnaires:

Questionnaires will be devised to reflect competences identified in UKCC-endorsed requirements for learning programmes. The subsets of each competence will allow for scales responses.

Issues:

1. Adherence to the investigation may be an issue in completing logs. This assumes that coaches will remain active, and may also be compromised by the next level of certification.
2. There is a significant range of competences identified in UKCC guidance. Research managers will need to consider whether a selective approach might produce the more robust evidence of change.

⁷² One of the issues to be considered is the time taken to complete the award, and the period of time until the next award is taken. It is for this reason that the log does not extend over a longer time span.

4.29 The following table (Table 10) describes Research Study 3: the proposed investigation into changes in coaching practice.

Table 10: Research Study 3

Research Study 3 Evaluation of changes in coaching practice: athletes' perceptions UKCC intermediate outcomes
Considerations: (see Figure 11) 1. A key practice markers approach should be adopted, focusing on UKCC-inspired, and client-agreed, change indicators in practice⁷³. 2. The approach adopted is to ask 'what will be done better if the UKCC is effective?' 3. Self-reported practice is inappropriate as a sole indicator; athletes' perceptions should also be used to provide evidence⁷⁴. The combination of athlete perceptions and case studies provides a balance of perspectives. 4. Observation will not provide sufficient coverage for evaluation purposes, but may usefully be added as an enrichment procedure. 5. It is recommended that the study use the Coaching Behaviour Scale for Sport. 6. Care should be taken for it not to become an athlete satisfaction survey.
Research Aims and Questions: The study addresses the following: strategic aims – 1, 3, 4 principal research questions: 13, 14, 15, 21, 22, 23, 24 More specifically: ▪ To what extent has coaching practice changed since the UKCC was introduced? ▪ To what extent does coaching practice change as a result of UKCC-endorsed coach education? ▪ Which elements of practice have changed most? ▪ Are there any differences in the adoption of improved practice by coach characteristics? ▪ Is there any pattern of adoption across sports and levels of certification and practice? ▪ Is there evidence of specific relationships between coach education and elements of practice? ▪ Which contextual factors influence coaching practice to the greatest extent? ▪ Which significant others are perceived to have assisted most in adopting changed practice? ▪ Which other factors are perceived to have influenced coaching practice?

⁷³ It has already been recognised that there is a challenge in demonstrating a cause-and-effect relationship between coaching practice and the UKCC, unless the practice performance criteria are strongly linked to the UKCC.

⁷⁴ The research design can be flexible, and can cope with comparison between a continuing sample of athletes and more general samples.

Methods	Athlete survey of coaching practice	
Procedures	Survey repeated each year; eight sports with six groups (2 x participation, 2 x development, 2 x performance) ⁷⁵ ; these should represent 'club coaching'; the selection of sports might be based on team/individual, gender, willingness, degree of anticipated change; age of athletes may preclude electronic survey. (Preference for researcher-assisted completion to boost response rates).	
Instrument:		
The Coaching Behavioural Scale for Sport has seven dimensions of coaching behaviour (Mallett and Cote, 2006): ▪ Physical training and planning ▪ Goal setting ▪ Mental preparation ▪ Technical skills ▪ Personal rapport ▪ Negative personal rapport ▪ Competition strategies. Each of these dimensions is subdivided into a number of 'items' (ranging from five to eight).		The UKCC core areas (Level 3) are: ▪ Analyse participants' current and potential performance needs and aspirations ▪ Plan a coaching programme ▪ Manage a safe and effective coaching environment ▪ Deliver programme goals using a range of coaching styles and methods ▪ Monitor and evaluate the effectiveness of coaching programmes ▪ Manage and develop personal coaching practice. [Each of these is further subdivided.]
Issues:		
1. The question of the scale of the survey is one to be decided by the research managers. Relating coaching practice to UKCC education will require the athletes to have been working with a recently trained (at whatever level) coach. More general changes in coaching practice will require a more comprehensive survey. 2. The survey instrument will be 'scaled' to permit quantitative presentation of evidence. Researchers might consider a number of focus groups to incorporate illustrative evidence.		

4.30 It will have become evident in the proposals that it has been very difficult to decide upon recommendations that are practicable, rigorous and provide data that can be usefully presented to major stakeholders. There were significant attractions in a large-scale repeated survey with a coach-behaviour instrument on a random but stratified basis.

⁷⁵ The dilemma will remain that, in order to evaluate change related to the UKCC, the athletes should be 'working' with a recently trained UKCC coach. This does not give a picture of more general coaching practice. This is question of scale; it is perfectly possible to compare UKCC-trained-coach-led athletes with a more general sample.

- 4.31 Table 11 describes Research Study 4: the second part of the coaching practice evaluation.

Table 11: Research Study 4

Research Study 4 Evaluation of change in coaching practice: case studies UKCC intermediate outcomes	
Considerations: 1. Rich illustrative evidence is necessary to provide a holistic picture of coaching practice. 2. Interplay with contextual factors can be identified and illustrated. 3. Evidence is 'richer' but less easily 'presented' to major stakeholders. 4. Can be linked to observation, as a 'follow up' element of the study.	
Research Aims and Questions: The study addresses the following: strategic aims – 1, 3, 4 principal research questions: 5, 7, 8, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24 More specifically: ▪ To what extent has coaching practice changed since the UKCC was introduced? ▪ To what extent does coaching practice change as a result of UKCC-endorsed coach education? ▪ Which elements of practice have changed most? ▪ Are there any differences in the adoption of improved practice by coach characteristics? ▪ Is there any pattern of adoption across sports and levels of certification and practice? ▪ Is there evidence of specific relationships between coach education and elements of practice? ▪ Which contextual factors influence coaching practice to the greatest extent? ▪ Which significant others are perceived to have assisted most in adopting changed practice? ▪ Which other factors are perceived to have influenced coaching practice?	
Method	Case studies
Procedure	1. Cases based on agreed accumulation of evidence of practice supported by semi-structured case interviews. [Researcher seeking for evidence to support reported practice] 2. Team of four researchers, each with 15 'cases' each year. 3. One half repeated, half new cases each year - stratified into four different 'levels' of coaching role.

Instrument:

The case study is based on a structure accumulation of evidence:

- 360⁰ evaluation by those within the network
- 'critical friends' reporting
- analysis of critical incidents
- career development analysis
- selective description of practice and context
- identification of key changes
- identification of relationship to coach education inputs and practice
- perceptions of principal agents of change.

Issue:

1. There would be significant challenges for analysis and presentation of data. A themed approach to analysis will allow the research team to focus on UKCC-related changes, while not losing the richness of integration and unexpected findings.
2. There are issues to be resolved by the client in relation to the scale of the surveys and the case studies in this element of the evaluation.
3. It would be assumed that the study would focus on coaches who had recently experienced UKCC-endorsed coach education.

4.32 Table 12 describes Research Study 5: opinions of key change agents and stakeholders on the impact of the UKCC.

Table 12: Research Study 5

Research Study 5 Survey of opinions of key change agents and stakeholders UKCC intermediate and sport outcomes	
Considerations: 1. The UKCC is a large-scale intervention with implications for a considerable range of stakeholders, and also reliant on a range of agencies for implementation. Therefore, there is a need to gather opinions about the perceived success of change to the UKCC. 2. Designed to enable judgements about the degree of successful change, but also progress and the factors influencing it. 3. Intended to combine quantitative scoring with semi-structured interviews.	
Research Aims and Questions: The study addresses the following: strategic aims – 1, 2, 3, 4 principal research questions: 1, 4, 5, 6, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 More specifically: ▪ How successful is the UKCC perceived to be by key stakeholders? ▪ Is there a pattern of response by stakeholders? ▪ Which changes induced by the UKCC are considered to be most effective? ▪ What opinions are expressed about target setting and the rate of change? ▪ Is the UKCC widely understood and recognised? ▪ How can the UKCC be improved? ▪ Which are the most impacting barriers and enablers? ▪ Is there agreement on the delivery infrastructure? ▪ Which factors influence the degree of 'buying in'?	
Method	1. Variable-scoring survey instrument 2. Semi-structured interviews
Procedure	1. Instrument administered to sample of each constituency at the end of years 1 and 3. 2. Interviews conducted with agreed sample frame at the end of years 2 and 4.

Sample	To be agreed with client, but based on: SkillsActive Coach education directors NGB source groups Coach educators UK Sport/Sport England Sample of coaches				sports coach UK Funding agencies Awarding bodies Endorsement panel Sample of local authorities Sample of governing bodies				
Instrument									
Survey based on the following criteria of change:									
▪ Vision clearly expressed and communicated ▪ Ownership of stakeholders clear ▪ Appropriate intermediate targets set and agreed ▪ Consequences of interim performance identified ▪ Agreement on priorities for change ▪ Resources considered appropriate ▪ Support for change considered appropriate ▪ Evidence of infrastructure/capacity building ▪ Communication and promotion considered adequate ▪ Appropriate management and coordination ▪ Level of direction/prescription appropriate ▪ Five most compelling enablers ▪ Five most compelling barriers.					More detailed description of each criterion	Scored on 0–5 scale for level of successful implementation		Subject to analysis by issue and stakeholder, plus change over time	
Interviews will take place with a sample of survey participants, in order to explore issues arising from the survey.									
Issues:									
1. Size and range of sample will be an issue for the research manager.									

4.33 Table 13 describes Research Study 13: data gathered to enable an analysis of an impact evaluation of the UKCC to be contextualised.

Table 13: Research Study 6

Research Study 6 Monitoring of the coaching environment Synthesis and contextualisation of impact evaluation evidence
Considerations: 1. The impact-evaluation methodology is composed of a number of discrete but related studies. There is a need to synthesise the findings of these studies and to do so in the context of the limiting factors identified in the logic model. 2. There is a need to monitor the factors identified in other studies as acting as enablers or barriers. 3. The findings from the monitoring exercise will be used to analyse and interpret the results from other impact-evaluation investigations 4. This is a secondary procedure; the evidence itself will not be used as 'stand-alone' evidence. The change model identifies relevant factors.
Research Aims and Questions: The study addresses the following: strategic aims – 1, 2, 3, 4 principal research questions: 2, 3, 4, 5, 6, 9, 10, 15, 18, 20, 23, 24 More specifically: 1. Which barriers and enablers are common across research studies? 2. Which aspects of UKCC provision are most influenced by both barriers and enablers? 3. In impact terms, are the potential limitations most evident at implementation, intervention or outcomes stages? 4. Is the development of sport policy in the UK supportive of the further development of the UKCC? 5. To what extent is the implementation of the UK Coaching Framework impacting positively on the UKCC? 6. What are the main changes in the sporting environment that are likely to impact on the UKCC in the future? 7. What is the accumulated evidence from research studies 1–5 on the impact of the UKCC?

Method	1. Review of emerging findings 2. Review of opinion and evidence from stakeholders 3. Evidence from authority regulators (sports coach UK, SkillsActive, UK Sport) 4. Policy documentation 5. Review of literature: ▪ coach education ▪ headline findings from research into long-term outcomes (sporting outcomes, participation, health, and so on) 6. Identification of trends; follow-up of barriers and enablers; synthesis of limiting factors. 7. Interviews with UKCC developers.
Procedures	Survey evidence collated at the end of years 1, 2, 3 and 4. Updated picture on limiting factors maintained. Data gathering based on barriers identified in the logic/change model. [The range of factors is so diverse as to preclude a common collation exercise. Each factor will be subject to a simple criterion and evaluation tool estimating status (enabling, constraining, changing positively, no change, changing negatively), supported by a mixture of qualitative and quantitative evidence.] Interim and concluding reports will be completed.
The logic model identifies likely limiting factors as follows: Implementation barriers: Flexibility invites discretion, emphasis on minimum standards, considerable sport-specific differences, resistance to learner-centred approach, needs analysis may not reflect market views, educational principles applied to coaching context, adopted ideology is challenge to common practice, competence-based approach: issue of performance versus capacity, assumption that new skills can be assimilated, level of implementation. Intervention outcome barriers: Governing body of sport resistance, endorsement process limitations, availability of mentors/apprenticeships opportunities, time-costs equation to individual, increased/decreased motivation, lack of sustainable infrastructural funding, revolutionary (step) change with incremental/developmental approach in early stages, limited research into progression and motives, quality of tutors, assessors and verifiers. Coaching practice barriers: Extent of the UKCC on the coaching population, distance from existing practice, contribution of coach education to practice, club development and deployment practices, volunteerism; absence of career structures, no licensing system or professional body, extent of reinforcement by community of practice, lack of output-related assessment, difficulty of defining 'quality' or 'standard', lack of prioritising of competences, NOS tangential to existing practice, conceptualisation of coaching pathway is aspirational.	

Issues:

1. A particular emphasis will be placed on the 'likelihood' factors influencing the impact of the UKCC on longer-term outcomes. It is recommended that the 'discourse of impact' (claims) should be moderated to reflect the 'UKCC as a contributory factor' approach.
2. Analysis and interpretation is likely to evaluate the results of the impact evaluation investigations against:
 - strategic change and leadership within the policy community
 - the contribution of complementary initiatives
 - evaluation of demand
 - implementation barriers
 - intervention output barriers
 - coaching practice enablers/constraints.

5.0 Review of Literature

Introduction

- 5.1 The purpose of this review of literature is twofold – to appraise:
- the extent to which there was a body of evidence available to guide the design and delivery of the UKCC
 - whether that evidence was based on empirical research into the practice of coach education at the system or individual component level.

Insofar as a coach education scheme will cover all sports coaches' skills, competences and knowledge, there is a temptation to be all-inclusive in reviewing the literature. However, the focus of the overall project is to evaluate the impact of the UKCC and, for this reason the emphasis is placed on scheme-wide issues and evidence related to the implementation of those features of the UKCC identified by the designers as fundamental.

- 5.2 The most recent writers in the field (eg Abraham, Collins and Martindale, 2006; Cushion, Armour and Jones, 2006; Gilbert, Côté and Mallett, 2006) concur that the state of knowledge in the field is significantly underdeveloped, although substantial advances have been made in recent years.
- 5.3 It is important to acknowledge that the review (insofar as it concerns the UK) relates to a pre-UKCC coach education provision.
- 5.4 The review has not been as lengthy a process as first envisaged. This was for a number of reasons:
- 5.4.1 It became evident at an early stage in the project that, although there had been some recourse to the literature, the principal building blocks (assumptions or principles) on which the UKCC was fashioned had not been derived on the basis of coach-education-related research evidence.
- 5.4.2 Although it became very clear that a range of (incontrovertible) educational/pedagogical principles had been applied, the decisions to devise, in particular, learning programmes on these general principles had been taken on ideological grounds, rather than based on evidence of their application to sports coaching education programmes. Of course, this is not to suggest that the principles of learning – needs-related, individualised, experiential, learner-centred, paced by the learner, empowering in style, problem-based approach and so on – are in any way inappropriate.
- 5.4.3 Previous reviews of the coaching literature confirmed that the research on coach education and, in particular, its contribution to coaching practice or coaching outcomes, was insubstantial (Abraham and Collins, 1998; Bowes and Jones, 2006; Lyle, 2002). There has been a taken-for-granted (and perhaps universal) assumption that coach education courses benefited the recipients, but a number of well-cited sources tended to the view that experience and specific learning community support were more influential (eg Abraham and Collins, 1998; Salmela, 1996).

- 5.4.4 A number of review sources, both empirical and with a more general focus, have become available in recent years (Cassidy, Jones and Potrac, 2004; Cushion, Armour and Jones 2003; Lyle, 2002; Trudel and Gilbert, in press). This rendered it unnecessary to engage in a substantial review of primary sources, and this review has been informed by these sources. The Trudel and Gilbert book chapter was particularly valuable. Not only was it authored by well-respected academics in the sports coaching field, but also, it was derived from a very extensive review of coaching literature (Gilbert and Trudel, 2004a), and was wide-ranging in its coverage.⁷⁶
- 5.5 The review is being conducted for a specific purpose: to support the first phase of the UKCC impact evaluation. For this reason, a number of the broad design features of the UKCC are used as a constant reference point. The approach adopted in the review is a 'questioning' one, in which the implications of the research are appraised critically for their contribution to understanding better the design features of the UKCC and any insights into potential impact.
- 5.6 There is a significant issue to be raised at this stage, because its prevalence throughout the literature is a constraint on applying the findings or arguments to the UKCC. In the same way that sports coaching is becoming acknowledged as a complex, untidy and challenging process (Bowes and Jones, 2006; Jones and Wallace, 2005), coach education is made complex because of its sport-specific nature, the multi-levelled structures, its evident voluntary/professional distinctions, and quite diverse underlying outcomes (broadly, a concern for developing young sportspersons versus assisting committed individuals to improving competition performance). Therefore, there are occasions when the focus of the coaching being researched is quite centrally placed on those working in a learner-centred context (eg Gilbert and Trudel, 2001), and other studies in which the coach of performance athletes is the focus (eg Mallett and Côté, 2006). It may of course be that there is much common ground. What is less obvious is that arguments for specific elements of coach education are thought through for their implications on a multi-level, sport-specific, often time-precious, and large-scale enterprise such as the UKCC. Thus, much of the literature reviewed could usefully be more focused in its application and implications for practice. It became obvious in the review that the absence of agreed models of professional development and occupational pathways are limitations and shortcomings in the existing knowledge base.⁷⁷
- 5.7 The key question to be addressed is 'can we be sure that coach education, and specifically the UKCC, will work?', and if the evidence is available, what works best? Dickson (2001) in his introduction to an investigation into the effectiveness of the NCAS in Australia reports 'no single investigation has

⁷⁶ It is important to note that the reviews cited were not based solely on the UK's provision, and, of course, where this is the case, the provision is pre-UKCC. The Gilbert and Trudel review based its 'inclusion rules' on peer-reviewed journal articles. While ensuring the rigorousness of the papers, it can be said to be a 'narrow' selection of the writing (eg books, conferences papers, reports) on coaching and coach education.

⁷⁷ There are exceptions, and the work of Jones and his colleagues (for example, in Jones, Armour and Potrac 2004, and the original PhDs of co-workers such as Potrac and Cushion) is often centred on experienced professional coaches whose pathways, while often idiosyncratic, are quite well understood. The juxtaposition of levels and stages of coach education with levels of professional development is yet to be accomplished in the literature, largely perhaps because of the enormous range of occupational 'levels' embraced by programmes such as the UKCC.

sought to address the fundamental issue regarding the scheme: that is, has the NCAS produced better coaches?' Unfortunately, the report went on to fail to answer the question. However, this was not an isolated case. A summary of summaries might say: there is no empirical evidence to confirm the positive impact of large-scale coach education schemes; there is no empirical evidence to confirm the contribution of component features of coach education when implemented within these schemes; there is no empirical evidence to confirm the contribution of coach education to coaching practice⁷⁸; there are very well supported arguments that broad principles are appropriate; and coach education operates (or has done until recently) within a climate in which the assumption that coach education makes a positive impact is rarely explicitly challenged, although the weaknesses are recognised, but the design and content is dependent on traditional models of delivery, and subject to prevailing ideologies.

Coach Education Research

- 5.8 The particular focus for this review is the extent to which there is evidence of impact evaluations of coach education programmes and, secondly, if there is evidence of elements of, or approaches to, coach education being tested for their effectiveness. What evidence do we have that coach education works?
- 5.9 The language of coach education research is not absent from the literature, but there is no substantive body of research on the evaluation of coach education programmes (Gilbert, 2006). The publication of research related to coach education was boosted by a special edition of *The Sports Psychologist* (Gilbert, 2006). However, it is interesting to note that only two of the articles could be classified as programme evaluations: one of these concerned an undergraduate programme (Demers, Woodburn and Savard, 2006) and the other a one-off 28-hour theory-based programme (Cassidy, Potrac and McKenzie, 2006).
- 5.10 McCullick, Belcher and Schempp (2005) endorse the view that researchers consider 'coach and sport instructor certification' as worthy of study. However, none of the studies they cited were investigations into coach education course effectiveness or impact. Gilbert and Trudel (1999) is often cited as an evaluation study, but it is largely a set of recommendations for testing programmes, and the paper contains a 'try-out' on one coach. The authors note that large-scale coach education programmes have not been evaluated and that their effectiveness is questioned. Where there has been some research, they point to it having been conducted in 'controlled research contexts', without *in situ* application.
- 5.11 There have been a number of evaluations of the Australian and Canadian coach education schemes, but none of them constitutes an impact study (eg Dickson 2001; Douge, Alexander, David and Kidman 1994; Haslam 1990). The Coaching Association of Canada (2005) conducted an evaluation of its National Coach Certification Programme in 1995. This was a comprehensive review of the curriculum structure, content and philosophy and has led to a revised programme (Coaching Association of Canada, 2005; Demers et al.,

⁷⁸ This is a key issue. It is difficult to make a judgement on whether the failure to establish a link between education and practice is because there is no link, a result of disinterest by researchers, or poor research. It seems likely that there is a link, but the nature of the link and its extent has perhaps proved to be too difficult a challenge for researchers to date.

2006). The review involved gathering the opinions of stakeholders and it identified systemic weaknesses. Nevertheless, it did not embrace any evaluation of the outcomes or impact on coaching practice. More generally, the Cochrane Review of large-scale sports interventions found that there were no rigorous studies to demonstrate successful interventions (Jackson, Howes, Gupta, Soyle and Waters, 2005). Coaching is not mentioned specifically, although, clearly, many of the interventions considered to influence participation in sport will be mediated by coaches.

- 5.12 The proceedings of an international workshop on coach education contain references to evaluation (Bond and Whittall, 1996). In this, Bales describes a coach education evaluation structure in relation to the Canadian certification programmes (page 43). His four-stage model: delivery – was the course delivered as planned? – testing – did the coaches achieve the learning objectives? – tracking – are the coaches using the skills on the job? – impact – what is the impact on the sport system? – is useful and compares well to the method recommended in this review, but the model was a ‘theoretical’ one. Schembri (in Bales and Whittall, 1996) reports that, in using a coaching behaviour instrument on a before-after basis on one aspect of evaluation, there was little evidence of an improvement, ‘so the intervention of a coaching course did not appear to effect any change in coaching behaviour’(page 63).
- 5.13 The literature is unequivocal in adopting the position that coach education to date is perceived to lack relevance (Abraham and Collins, 1998; Cushion, Armour and Jones, 2003; Jones, Armour and Potrac, 2004; Saury and Durand, 1998). Criticisms are generally focused on the perceived failure to develop knowledge and skills that reflect the demands made on coaches. In their critique of coach education, Cassidy, Jones and Potrac (2004) identify maintenance of existing values and perceptions about coaching, a failure to enable coaches to integrate knowledge and skills, and a tendency to simplify and decontextualise knowledge and skills: ‘many coach education programmes continue to teach universal course content in a fragmented, sequential form’ (page 177). Liukkonen, Laakso and Temala (1996) found that the emphasis was on performance enhancement, within a fragmented programme, with a lack of social context.

Gilbert and Trudel (2001) sum this up as a ‘lack of ecological validity’, citing Douge and Hastie (1993) for support. Jones and Wallace (2005) use stronger language, suggesting that much of coach education reported in the literature they reviewed is ‘fine in theory’, but divorced from reality. This final statement refers to a ‘neatness and tidiness’ in the coaching role portrayed in coach education which is not found in practice, and for which coaches may, therefore, be unprepared.

- 5.14 There have been a number of descriptive analyses of coaching schemes (eg Campbell, 1993; Dils and Ziatz, 2000; Mills and Dunleavy, 1997), but, although these are often comparative, there are no impact or effectiveness criteria. The descriptive accounts are often accompanied by recommendations for improvement or change. Lyle (2002) suggests that these might usefully adopt a different focus; ‘such accounts are symptomatic of the attention given to structures and content, rather than critical accounts of preparation for practice’ (page 276). *Coaching Matters* (Coaching Review Panel, 1991) gave some attention to structure and content, albeit in limited detail.

- 5.15 Where there have been attempts to 'measure' change, the results are not encouraging. Schembri reports that there were no changes in coach behaviour in a before-after study (in Bond and Whittall, 1996), and Gilbert and Trudel's (1999) often-cited evaluation study was conducted on only one subject, who also demonstrated no change.⁷⁹ Given the meagreness of the evidence, it would be most appropriate simply to state that there was no evidence either way.
- 5.16 Trudel and Gilbert (in press) provide a useful historical and developmental perspective on large-scale coach education programmes. They find two assumptions that characterise the novice–expert continuum that they identify in such programmes. The first is that there is one body of coaching knowledge, and the second that the continuum can embrace all coaching contexts. Trudel and Gilbert go on to argue for a 'specific coaching contexts' approach, identifying recreational, developmental and elite domains (see also Lyle, 2002: 52–58). The authors discuss the influence of research on large-scale programme design. This, they find to be 'limited', and reflective of a poorly collated and disseminated body of knowledge.

Trudel and Gilbert argue that the model of coach education has emerged from performance science: 'in sum, coach education was founded on a technical rationality model founded on the delivery of sport science knowledge out of context, and assumed a novice–expert coaching continuum' (page 8). There also seems to have been, in the UK, the influence of Eastern European 'training theory' content (Lyle, 2002).

Coach Education Research Findings: Participant Responses

- 5.17 It is hardly surprising, given the dearth of research into coach education, that there are very few indicators as to what might be effective practice, particularly in large-scale programmes.
- 5.18 Where there are findings, the evidence has almost always been obtained from the participants. This is an appropriate source of opinions, but does not, of itself, demonstrate what is effective. In summarising very experienced coaches' opinions, Jones et al. (2004) point to a failure to base coach education in the complexity of coaching interaction and complex circumstances. In another satisfaction survey of opinions in four countries (Tamura, Davey and Haslam, 1993), there was little insightful information. However, even in the three countries from which positive responses were common, only 65-70% of coaches felt that coach education would influence their coaching.

McCullick et al. (2005) reported that the coaches/instructors in their study favoured logical, sequential and comfortable formats, wanted pedagogical knowledge taught and modelled, their educators to be knowledgeable, and the introduction of pertinent pedagogical research to be apparent. The authors suggest that the 'golf coach/instructor' context may have influenced the findings.

- 5.19 Cassidy et al. (2006) describe the design, implementation and evaluation of a 28-hour theory-based coach education programme. This was conducted

⁷⁹ Although often reported otherwise, Gilbert and Trudel make it clear that their paper is focused on a proposed methodology, rather than conducting an evaluation.

on experienced development coaches. The evaluation was conducted by interviewing eight participating coaches. Their self-reported personal development centred on a realisation of the relationship between the participants' learning and the coaches' 'instructional' practice, the value of conceptualising coaching as a process, and sharing experiences with other coaches. The authors argue convincingly for much increased attention to the learning programme in coach education, the place of critical reflection, and the contribution of the community of practice within which coaches operate.

- 5.20 One of the clearest messages to emerge from the literature centred on opinions is that there is a fairly consistent pattern describing the place of experience in improving coaching practice (Coaching Association of Canada, 1996; Gould, Giannini, Krane, and Hodge, 1990; Salmela, 1995). The experience is often linked to a mentor or other supportive figure. Cushion et al. (2003) suggest that the primary source of knowledge for coaches is experience of coaching and observation of other coaches. Irwin, Hanton and Kerwin (2004) give a detailed account of how experience supported by mentoring was crucial to developing coaches' gymnastics knowledge. This study also identified feedback from coaches to the effect that their coaching courses had been valuable, 'providing an initial enthusiasm, providing a mentor-type environment between the tutors and amongst the coaches themselves' (Irwin et al., 2004, page 438), although the coaches also identified negative experiences.
- 5.21 There is consistent evidence that coaching efficacy (coaches' belief in their coaching ability) significantly increases following a coach education intervention, although they note that there has been no investigation into its maintenance. Feltz, Chase, Moritz and Sullivan (1999) devised an efficacy scale and have applied it in several studies of novice coaches (Campbell and Sullivan, 2005; Lee, Maleté and Feltz, 2002; Maleté and Feltz, 2000). This body of work has been carried out on novice coaches, and it hardly seems surprising that the knowledge and skills gained by entrant coaches would increase their confidence.

Conceptual Issues

- 5.22 There are a number of conceptual issues that become evident in reviewing the literature. These are centred on definitions and coaching/participant populations.
- 5.23 A range of different emphases can be found in the literature. For example, it is interesting that McCullick et al. (2005) use the term 'coaches and sport instructors' and focus on the need to satisfy new entrant and youth sport participants. Dils and Ziatz (2000) focus on the 'certification' process, rather than the quality of learning. In a completely different genre of research, Cushion, Armour and Jones (2003) and Jones and Wallace (2005) describe coaching as a very complex human interaction, most often in performance sport.
- 5.24 A good deal of the UK work (Jones, Armour, Potrac, Cushion) has been carried out on experienced (often team-sport) coaches. There is almost an assumption that being observers and assistant coaches (cf Lave and Wenger's [1991] 'situated learning') is a normal transition into coaching. While it is clear that this is a reality for many coaches who have progressed from being performers, it may not reflect the development of first-level entrant coaches into coach education from the parent/helper route. This is

illustrative of the 'specific coaching contexts' characteristic of coaching and, as observed earlier, few of the findings from these studies are discussed in the context of multi-level certification programmes.

- 5.25 A cursory review of the literature reveals that the structure of discourse is important, and itself requires much further attention. Gilbert and Trudel, in their 1999 paper, refer to 'instruction'. They use the term 'was there a change in instructional behaviours?' This may reflect a 'coaching as direct delivery' emphasis, an assumption that underrepresents cognitive behaviours.⁸⁰ These authors' Coaching and Coach Education chapter was derived from their review of coaching science research from 1970–2001 (see Gilbert and Trudel, 2005). Having identified the fact that, in the 600+ papers reviewed, no one had defined 'effectiveness', they were less than surprised that it could not therefore be measured or evaluated (Gilbert and Trudel, 2004b).

Approaches to Evaluation

- 5.26 Although the 'cupboard is bare' in relation to completed evaluations of coach education programmes, there is no shortage of advice on how it might be done! These recommendations range from the complex and individualised (Gilbert and Trudel, 1999) to relatively simple reflections of coaches' opinions (McCullick et al., 2005). There is support for assessing participants' views, although these inevitably give less than the substantive data required to make judgements on effectiveness, particularly in relation to practice. They may, however, give valuable insights into learning programmes and their delivery.
- 5.27 Gilbert and Trudel (1999) asked these questions:
- Is the course delivered as designed?
 - Does the coach acquire new knowledge?
 - Was there a change in **instructional**⁸¹ behaviours?

In order to obtain the necessary evidence, Gilbert and Trudel used one coach with whom they carried out participant observation, a background interview, a knowledge test, a post-course summary interview, content analysis, stimulated recall interview analysis, decision-making analysis, and systematic observation. Not surprisingly, they note that the process is complex and time-consuming. This offers little assistance for surveying large-scale programmes, but points to the value of a case-study approach.

- 5.28 As reported earlier, the proceedings of an international workshop on coach education contain references to evaluation (Bond and Whittall, 1996). Bales describes a coach education structure in relation to the Canadian certification programmes (page 43). His four-stage model: delivery – was the course delivered as planned? – testing – did the coaches achieve the learning objectives? – tracking – are the coaches using the skills on the job? – impact – what is the impact on the sport system? – is useful and compares well to the method recommended in this review, but the model was a 'theoretical' one. Dickson (2001) asked similar questions:

⁸⁰ The implication here is that the coach's observable behaviour is the focus of attention and other less easily observed and recorded activities (decision making, planning, coordinating, contingency and crisis management, and so on) are given less attention, perhaps as a result of being more challenging to study.

⁸¹ Emphasis added.

- Why do coaches undertake NCAS⁸² accreditation?
- What are the main benefits of undertaking NCAS accreditation?
- Do respondents perceive that the NCAS has led to improvements in coaching?

Dickson addressed these questions by interviewing coaches from one sport. The 'coaches' opinions approach' was also used by Tamura et al. (1993) and McCullick et al. (2005).

- 5.29 The use of systematic behavioural recording instruments has a long history in coaching research (Gilbert and Trudel, 2004a). Abraham and Collins (1998) provide a detailed critique of this approach. They point to the limitations for understanding cognitive behaviour and question whether such research has been fruitful for coach education: 'we are unaware of any formal coach education systems that explicitly exploit the results or methodologies of either the behavioural or the expertise-based literature' (page 60). More recently, there is an acceptance that systematic observation needs to be combined with interviews to provide a fuller picture of the socio-pedagogical and 'messy' interaction between coach and performer (Jones et al., 2004; Jones and Wallace 2005; Potrac, Brewer, Jones, Armour and Hoff, 2000⁸³). Nevertheless, systematic observation has some potential for recording pre-post course behaviours if the instruments reflect appropriately the behaviours intended to be affected.

There must be some doubt that the processes required to encourage cognitive learning are understood in the coach education context (Abraham and Collins, 1998; Abraham et al., 2006; Lyle, 2002), or that methods for evaluating decision-making behaviour are readily available for large-scale studies. Mallett and Côté (2006) examine the potential of the Coaching Behaviour Scale for Sport (CBS-S: Côté, Yardley, Hay, Sedgewick and Baker, 1999) as an evaluation tool, but it has yet to be used in large-scale interventions.

- 5.30 When *Coaching Matters* (Coaching Review Panel, 1991) made its recommendations for incremental change to coach education in the UK, it did not draw on research evidence, but combined expert deliberation with some comparison to perceived good practice elsewhere. The 'expert group'/consultation approach has been evident in coaching developments from the review group to the Coaching Task Force, the development of occupational standards, and the UKCC. The Coaching Task Force (DCMS, 2005) also based its recommendations on an 'international benchmarking exercise'. However, this evidence did not contain cause-and-effect judgements of effectiveness, but drew (valuable) comparative markers from countries 'perceived to have successful processes' (2005; 5).

⁸² National Coaching Accreditation Scheme – the Australian coach education certification programme.

⁸³ There is perhaps a Freudian slip when, in describing the benefits of good practice in systematic observation, the authors say '...achieving such reliability and validity within systematic observation instrumentation, as in order to fully interpret the **instructional** process in sport, it is essential that systematic observation instruments are capable of accurately and comprehensively recording the **instructional** behaviours utilised by coaching practitioners...' (page 192) (NB: emphasis added). This may point to an assumed relationship between systematic observation and the more observable intervention behaviours.

Recommended Changes / Improvements to Coach Education

5.31 The literature does contain many recommendations for 'how coach education should be'. The caveat to this will already have become evident – that much of this, while it may be based on some evidence of coaching practice needs, is rarely tried and tested in the field. Understandably, recommendations can be sweeping in their scope, or may involve simply a restatement of proposed emphasis. In general, the following pattern emerges:

5.31.1 Better links are suggested between the perceived demands of the coaching role and the design and content of coach education.

5.31.2 There is an accumulation of recommendations towards the development of a 'personal model' of coaching.

5.31.3 The learning programme in coach education is much underdeveloped in its use of the theoretical underpinnings available.

5.31.4 Much greater attention should be given to the cognitive behaviour underpinning coaching practice.

5.32 A key factor in the emerging literature is the conceptualisation of coaching practice as a complex human interaction in a highly contextualised and 'difficult' set of circumstances.⁸⁴ This reinforces Gilbert and Trudel's (1999) suggestion about the lack of value in developing in coaches a 'behaviour against a model' approach. Jones and Wallace (2005) point to the complexity and (often unresolvable) challenge of accommodating multiple goals. The nature of coaching is described as untidy, complex, dynamic, and often humble in the reality of achievements. The authors then understandably question whether coaches are currently prepared in their coach education for this challenging role.⁸⁵ The issue is how coaches can move from good-practice prescriptions to the knowledge-for-understanding and application that will allow, 'incrementally coping with complexity' (2005, page 128). Jones and Wallace argue for 'orchestration' as an appropriate conceptualisation of this overall competence.

5.33 The answer to how coach education might allow coaches to develop the necessary learning is described by Jones et al. (2004) as:

- conceive of coaching as intellectual work⁸⁶, with pedagogical implications
- design development activity based on integration with other coaches and a degree of experimentation
- encourage scholarship
- provide coach education characterised by contextualisation, problematisation, activity and application.

⁸⁴ Although not a limiting factor, it should be noted that much of the research/commentary is based on relatively experienced coaches in a performance arena.

⁸⁵ The reference is to the more formal coach education. Part of the argument is that coaches will acquire the necessary 'competence' through experience, but that this is less controllable, may lack innovation, does not provide critical insight, and places a heavy burden on the coach's powers of reflection and personal action.

⁸⁶ The MORI (2004) survey and other previous surveys (eg Tamura et al., 1993) have demonstrated that (particularly, well-qualified) coaches tend to possess higher-level educational attainments.

Jones (2000) put this as developing the necessary intellectual and practical competences: 'independent and creative thinking skills in relation to meaning making and problem solving' (page 219). Cassidy et al. (2004) suggest:

- conceiving of coaching as an intellectual exercise
- focusing on integration and synthesis
- presenting a holistic picture of coaching practice.

5.34 Abraham and Collins (1998) propose that coach education should 'explicitly challenge candidates to rationalise, and critically reflect on, the particular blend of coaching tools that have been used' (page 72). They suggest that there should be a 'breadth first' approach, that 'weak problem solving' (learning to apply solutions) should be included, and that experience by itself is not a sufficient remedy. They do admit that none of their proposals have been tested in a coaching context. In general, the recommendations in the literature are less detailed in how they might be incorporated into learning programmes, and are more concerned to establish broader principles.

5.35 There is a good deal of support for a humanistic approach to coaching and coach education. Insofar as this is an ideological position, its proponents often base their stance on argument, rather than research. This may partly be a reflection of the emphasis given to different research paradigms. The arguments are supported by descriptions and interpretations of practice or opinion, and by principles adduced from other fields. Although there is an absence of more widespread 'does it work' type research from these prescriptions (an observation that applies, of course, throughout the literature), there is often a valuable case exemplar approach.

The learner-centred approach to coaching is very well illustrated by Kidman (2001; 2004). Lombardo (1999) asserts that what he terms the 'professional model of coaching' still exists. No writing is value-free, and there is a contested polemicised discourse, in which the humanist position inhabits the moral and ethical high ground. The introductions to Kidman's books demonstrate the assumptions about the negative features of performance coaching. Cassidy (2004) provides an argument for the social learning and cultural complexities of coaching, but adds to a description of good practice: 'unfortunately this does not sound like your typical coaching environment' (page 15).

5.36 Lyle (2002) exemplifies the 'prescription based on argument' approach. He supports the intellectualisation and contextualisation of coaching and coach education. He identifies the following characteristics of appropriate coach education:

- role-related competences
- usable, integrated skills
- attention to cognitive organisation
- process-management skills
- capacity building
- clear progression through professional stages
- attention to interpersonal skills
- sport specificity
- a practice/experiential base
- research-based education and training.

The 'building capacity' (rather than performance) principle is important, as it complements the coping with uncertainty and orchestration described earlier.

5.37 One of the recommendations from Gilbert and Trudel's writings is that a 'specific coaching context' needs to be identified, and that there may be broad categories of coaching context that require distinctive preparation. They stress the need for coaches to 'frame their roles', to learn the social, pedagogical, technical, goal and other frameworks within which their practice is bounded. They suggest that these should be built around current issues in coaching and frequently used coaching strategies (Gilbert and Trudel, 2001; 2004).

5.38 It is possible to identify a number of more general features of learning that might be used to 'shape' an educational intervention. Race (2005) is a prolific writer on learning in post-compulsory education. He identifies five factors that characterise effective learning:

- the intrinsic desire to learn
- recognising and internalising the need to learn
- learning by engaging in relevant activity
- learning through feedback
- understanding what has been learned.

(adapted from Race, 2005, page viii).

It follows from this that learning programmes should exhibit a number of characteristics:

- applied
- relevant
- reflective
- individualised
- (inter)active
- progressive.

There is a clear focus on the learner and the learning environment (in contrast to a tutor- or content-driven curriculum), which describes well the broad principles of the UKCC.

5.39 The research on sport pedagogy is generally described from the perspective of the young learner of physical activities. Nevertheless, there are a number of characteristics of this learning that are associated with the coaches' behaviour and may, therefore, form an agenda for the pedagogical skills associated with the early stages of coaching education and development. Macdonald, Côté and Kirk (2005), in their review of pedagogy for junior sport, find broad support for an approach to coaching pedagogy that emphasises facilitation skills, structuring progressive practice, flexibility, and adaptation to individual needs. The coaches influence the learning programme through their interaction with the participants and their organisation, regulation and evaluation of the activity. They suggest that there is evidence (citing Rink, 2001) for a less-directive role. There is no specific evidence of these features being successful in coach education, but it reinforces the UKCC rationale.

Problem Solving, Reflective Practice and Mentoring

5.40 There is a group of specific learning mechanisms for coach education learning programmes that are often advocated in the literature; in

particular, mentoring, problem-based learning, and reflection. Each of these approaches is more than adequately illuminated in other fields of education, but there is little evidence of their application in coach education. This does not imply that such mechanisms are not appropriate, but simply that there is no specific evidence that they engender improved coaching practice or more effective coaching education. In general they are defended by their logical application to the perceived demands of preparation for coaching practice. This is what Cassidy et al. (2004) term structuring 'the learning environment in ways that encourage and assist coaches to acquire the needed information, skills and understanding' (page 181). These authors focus upon the use of critical tasks, problem-based learning, narratives, and mentoring. Throughout the literature, mentoring and reflective practice are often linked.

- 5.41 Trudel and Gilbert (in press) suggest that there is value in problem-based approaches only if they are 'real', which they define as involving genuine interaction with other actors, and the application of the antecedents of decision making (each of which is difficult in simulated practice). While they are supportive, they acknowledge the absence of research evidence: 'we do not yet have any empirical studies that show if this new approach will be more effective than what we had before' (page 16). There is broad support from writings in physical education (eg Kirk, 2000), and many authors point out that a knowledge base is necessary to form the basis of the problem solving, even if the process itself may involve 'professional short cuts' (Lyle, 2002).
- 5.42 Mentoring was reported in early studies to be a valuable form of learning (Gould et al., 1990; Salmela, 1995), and the place of mentoring has become almost ubiquitous in coach education programmes. Cushion et al. (2003) suggest that mentoring is appropriate, but that it is not 'done well'. Irwin et al. (2004) found that the most important resource identified by the coaches in their study was mentor coaches. The authors consider that mentoring enables the coaches to enter into structured reflection, which provides an external reference point for their learning. They also make the point that 'apprenticeships' can negate the interactive and structured learning assumed to be enhanced by mentors. This is also criticised by Cassidy (2004), who depicts this as 'copying', and suggests that it is too 'technically orientated'. This would appear to be an issue of definition rather than principle.
- 5.43 Reflection is one of those topics about which there is no demurring, since reflecting on experiences seems intuitively to be an almost 'natural' state. However, the issue is what form the reflection should take to ensure that coaches can take advantage of it. Reflection as a principle is supported by Trudel and Gilbert (in press), but they say that there has been no evaluation in coach education. The most recent literature identified throughout this review makes the assumption that experience and guided practice should be a basic tenet in coach education. It is further assumed that reflection is required to 'make the best of it'. One of the benefits of reflection is the opportunity to 'build personal models' of coaching. The issue is how coaches are trained to reflect both 'on' and 'in' practice (Anderson, Knowles and Gilbourne, 2004; Irwin et al., 2004; Mallett, 2003). Nelson and Cushion (2006) provide a 'compelling argument' for reflective practice and offer advice on how such an approach might counter the potential lack of insightful application arising from too narrow a craft pedagogy.

Summary

5.44 The following bullet points summarise this review of literature of research into large-scale coach education:

- There is a dearth of research studies into impact evaluations of large-scale coach education programmes.
- There are many prescriptions for 'better' coach education; these are founded on an emerging conceptualisation of coaching as a complex, dynamic, uncertain and highly contextualised practice.
- Most prescriptions have not been 'tested' for effectiveness, or comparative utility, in a coach education context. Thus, they are generally 'arguments for', rather than 'evidence of'. The literature has borrowed heavily from pedagogical prescriptions and, more recently, from a range of relevant disciplines.
- There is an emerging emphasis in the literature on the socio-pedagogy of coaching. This emphasises the contextual nature of the coach's intervention behaviour and the skills necessary for appropriate 'delivery'. The literature is increasingly concerned with an understanding of this behaviour and the appropriate mechanisms for its development.
- The problem of 'capturing' the whole of practice leads to some recourse in research practice to 'instructional' behaviour as a surrogate for coaching.
- The emerging emphasis on the individualised framing of role and capacity has not yet been examined in the practicality of delivery and design of large-scale programmes. The sense that it is much easier to prescribe than operationalise pervades the literature.
- There have been few successful attempts to deal with coaching effectiveness and to incorporate this into evaluations of coaching practice or coaching education outputs. This includes the technical (sport-specific) component of coaching knowledge and expertise.
- There is some consensus on the 'specific coaching context' nature of coaching practice and the consequent demands on knowledge, skills and competences. This has implications for a universal continuum model of coach education certification. The failure to 'draw this out', for example, in role and value boundaries, is symptomatic of a lack of specification of the coaching populations being investigated. There is a clear schism in the literature between the youth-sport context and the performance-sport context.
- The problem for coach education evaluation research is not having sufficient methodologies available, but which of them are useful for large-scale impact evaluations that attempt to embrace the full range of delivery, output and impact.
- There is a consensus within the literature that a supportive and interactive learning (coaching) community of practice is required for appropriate coach education to take place and be reinforced.

- 5.45 There is no doubt that the impact evaluation of large-scale coach education programmes is a significant methodological challenge. Coach education designers are able to identify a number of predisposing, enabling and reinforcing factors that influence behaviour, and there are abundant principles of good practice for adult education, in addition to design and delivery prescriptions. These programmes are intended to influence a series of coach education outcomes (behaviour changes) that will, in turn, influence practice. The ‘improvements’ in coaching practice are intended thereafter to impact on outcomes such as the quality of coaching (although difficult to define), standards of performance, and sports participation rates. Coach education designers are able to draw upon evidence from other relevant fields, for example, education and teaching, and a substantial body of solid argument. However, the clear message from the literature on coach education is that methodological and conceptual challenges, and the sheer scale and complexity of national certification programmes, have thus far prevented a substantial body of rigorous research evidence becoming established.
- 5.46 The most common approach to evaluation is to argue for a deficit in coach education practice based upon a ‘perceived needs analysis’ of coaching practice, with subsequent proposals for redressing the shortcomings. *The Sport Psychologist* special issue confirmed that there is an emerging consensus that the coach education learning programme, in design, content and philosophy, has received insufficient attention and that there are many theoretically substantiated models for improvement (Bowes and Jones, 2006; Cassidy et al., 2006; Nelson and Cushion, 2006; Werthner and Trudel, 2006). It is important to stress again that there are few attempts to translate these proposals into large-scale national certification programmes practice. In moving forward, it may be necessary to:
- convince national agencies to use more experimental design⁸⁷
 - apply more varied impact-evaluation measures
 - begin with much clearer logic models for coach education design.
- 5.47 In the context of this phase of the UK Impact Study, it is important to draw some conclusions about the extent to which the design of the UKCC is supported by the current literature. The issues relating to evaluation and impact will be dealt with by the UKCC Impact Study itself. Overall, the literature is equivocal about the impact of large-scale coach education schemes, but the impact study will be designed to address this issue.
- 5.48 It seems clear that the UKCC has been designed to address many of the weaknesses or shortcomings of pre-UKCC provision identified in the literature. The following examples refer to instances in which the design or ethos of the UKCC can be linked to findings from the coaching research literature. [The words in bold reflect a theme from the literature.]
- 5.48.1 Increases in the **experiential** element, and much increased application of **reflection** of experience address the concerns over formal education versus experience.
- 5.48.2 The UKCC incorporates a more **varied delivery pattern** to address concerns about existing practice not being sufficiently centred on the learner’s needs.

⁸⁷ Which, of course, is the purpose of the UKCC Impact Study.

- 5.48.3 The **quality-control** measures, which are much enhanced in the UKCC, address the concerns over variable standards and delivery.
- 5.48.4 The concern to carry out the impact study and related research is a concern for **evaluation** that has not characterised provision thus far.
- 5.48.5 Content (skills and knowledge) have been reviewed to address the issue of **relevance** to coaching practice.
- 5.48.6 The integration of how, what and why components, along with sport-specific technical content addresses the **fragmentation** and lack of **social context** identified in the research.
- 5.48.7 Attention to the role-related competences and underpinning knowledge base reflects a concern for an overemphasis on **performance science foundations**.
- 5.48.8 The increased emphasis on **mentoring** reflects a consensus within the literature on the importance of this and other aspects of **social support**.
- 5.48.9 There is clearly a weight of opinion supporting a **learner-centred** approach and a move away from an overly didactic approach to delivery.
- 5.48.10 Although in a development phase at present, the Level 4 and 5 stages of the UKCC are intended to provide an engagement with case studies, innovative problem solving and critical analysis that will address the **complex, untidy and challenging** set of individual circumstances in which coaches operate.
- 5.48.11 There are a number of **prescriptions for good practice** in the literature. The UKCC appears to address these in terms (particularly) of integration, progression, experiential base, and breadth-to-depth approach.

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