



Mentoring and coaching trainee and early career teachers: Conceptual review

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Foreword and context by the NIoT

Why is the NIoT doing this project?

The NIoT exists to support teachers and schools. We do this by conducting rigorous research to inform our own training programmes and then sharing it with the sector so that everyone can benefit.

Our first research project is on teacher mentoring, because this is a fundamental element of trainee and early career teacher training. When done well, teacher mentoring can be a powerful way to support, develop and retain effective teachers.

High-quality mentoring is a core element of the Early Career Framework (ECF) and ITT Core Content Framework. Yet schools are reporting serious capacity and funding issues. Many – particularly small schools – struggle to identify appropriate mentors and to provide them with sufficient time and support. Within this context, there is a need for more guidance about where training providers and schools should focus their efforts.

Our aims for this project are:

1. To identify what is promising and where there are gaps in the evidence, in order to inform the commissioning of new research.
2. To develop a set of recommendations on effective practice for schools and providers involved in delivering the ECF and ITT Core Content Framework.¹

How is the NIoT carrying out this project?

We are taking a disciplined and collaborative approach, to ensure that it is relevant, rigorous and impactful. The project has four stages, overseen by an expert panel of practitioners, academics and providers, who represent a range of perspectives (see [Appendix 1](#) for a list of people involved). The four stages are:

1. **Conceptual review (this report):** Identifies the key terms, definitions, concepts and approaches in the field and sets out a theoretical framework for how school-based mentoring can achieve a range of outcomes.
2. **Current practice research:** Published alongside this report, it presents the results of a Teacher Tapp survey of teachers, so as to understand their experiences of mentoring and being mentored, with a focus on early career mentoring.
3. **Rapid evidence review:** With priorities informed by the first two stages, this will explore the quantitative evidence and associated implementation studies, to test how mentoring can be most effective in improving outcomes, including teacher practice, wellbeing and retention.

¹ Including ECF lead providers, ITT providers, teaching school hubs, and their partner schools.

4. **Develop recommendations:** In close consultation with the expert panel, and using an evidence-to-decision framework and findings from the first three stages, we will develop transparently a set of recommendations for providers and schools.

We will then exemplify these recommendations through our own programme delivery and share it with the sector. We also plan to conduct new primary research, where there is a need for more evidence, and to use this to update our recommendations in the future.

How is this report informing the later stages of the project?

1. **Current practice survey:** This report informed the definition of mentoring provided to respondents, and the design of some questions (e.g. on mentoring features and outcomes).²
2. **The priorities and search terms for the rapid evidence review:** This report, including its original mentoring types and theory of change, has informed the scope of the rapid evidence review.³ After consulting the expert panel, we prioritised a review of the quantitative evidence on the features of mentoring over which programme providers can have most influence, and their effectiveness in influencing teacher wellbeing, retention and practice, as well as pupil attainment.
3. **Develop recommendations:** In consultation with the expert panel, the NIoT will take into account a broad set of evidence and contextual factors, including the findings of this review, when developing its recommendations.

How can providers and teachers use this report?

As well as informing the later stages of the NIoT's research, this report is also an important piece of work in itself. For those interested, it can help provide a broader and deeper understanding of the varying definitions, perspectives, concepts and approaches in the field.

In particular:

- **Section 2 explores definitions of mentoring and coaching**, and can be helpful for those trying to understand what these terms mean and how they overlap.
- **Section 3 provides an overview of three broad types of mentoring and coaching models**, and is useful for understanding the range of approaches that can be applied, as well as their theoretical underpinnings. It can also help with understanding and contextualising current policy and practice in England.

² Published alongside this report: Allen, B., Ford, I., Wespieser, K. (2022). *Mentoring and coaching for trainee and early career teachers. Current practice survey*, Report to NIoT, November 2022.

³ Published alongside this report: Stevenson, J., Kiss, Z., Jørgensen, C., Maxwell, B., Hobson, A.J. (2022). *Mentoring and coaching for trainee and early career teachers: Protocol for a rapid evidence review*, Report to NIoT, November 2022.

- **Section 4 sets out a theoretical framework, or ‘theory of change’**, for how mentoring and coaching can achieve outcomes, including the active ingredients and modifiers of impact. Those designing mentoring programmes may find this framework a useful tool. It identifies all the elements of a theory of change for a mentoring programme that you will want to consider, as well as discussing some of the theory and evidence behind those elements.

These definitions and concepts can then be compared against current practice. For example, although the hierarchical-transmission type of mentoring defined in this report may be the mentoring model most encouraged by national guidelines in England, it is likely that providers and mentors use a range of approaches in practice.

This review is a starting point for our research, setting out the range of approaches in use, the many conceptual similarities between mentoring and coaching programmes, and the lack of consensus about what is most effective. Through the subsequent stages of our research, we plan to narrow in on some of the elements of effective practice that are most useful for supporting teachers and providers.

Throughout, we are keen to be as responsive and useful as possible, so do get in touch: research@niot.org.uk.

Summary of key findings

Definitions of mentoring and coaching

Mentoring and coaching are contested concepts, and each is often understood and used in different ways. There is also much overlap between models, frameworks and definitions of coaching and those of mentoring.

We consider it unproductive to attempt to differentiate between mentoring and coaching. Instead, we offer a single, overarching working definition⁴ to encompass a wide range of mentoring and coaching theories, models, frameworks and approaches:

'Mentoring and coaching are facilitative or helping relationships intended to achieve some type of change, learning and/or enhanced individual and/or organisational effectiveness.'

In this report, we also use the terms mentor, mentee and mentoring to be inclusive of coach, coachee and coaching.

Mentoring and coaching types

Based on our review of 18 mentoring or coaching models and frameworks that inform mentoring and coaching in schools, as well as the wider literature, programmes, practices, policy and standards, we suggest that there are three generalised mentoring and coaching types. These share common features, but are also different in important respects.

We give each type a dual label. The first part refers to a key feature of the mentoring or coaching relationship; the second refers to a key underlying goal of that relationship or programme. The three types are:

- **Type 1: *Hierarchical-transmission*** mentoring and coaching – characterised by the mentee positioned as protégé and the mentor as expert, with a focus on inducting the mentee into the norms and practices of the school, improving the mentee's performance and ensuring that they meet and act in accordance with externally prescribed standards.
- **Type 2: *Nonevaluative-developmental*** mentoring and coaching – characterised by relatively non-directive mentors supporting mentees as they find their own solutions to issues they encounter, and by a greater emphasis on professional growth and building on mentees' strengths.
- **Type 3: *Collaborative-transformative*** mentoring and coaching – characterised by the mentor and mentee engaged in a collaborative, reciprocal, equal-status relationship, in which challenges to the status quo (e.g. organisational norms and practices) are encouraged.

⁴ Adapted from Smith et al's (2009) definition of coaching.

We do not suggest that any of one these types is superior to another. Different types, models and frameworks may be more or less effective in bringing about positive impacts (eg improved practice, wellbeing, retention) at different stages in teachers' careers and in different teaching contexts.

Provisional mentoring and coaching theory of change

Drawing on analyses of 19 empirical reviews of mentoring and coaching and 48 sources associated with 18 models and frameworks, together with consideration of the wider mentoring and coaching literature, we have developed a hypothesised theory of change for how mentoring and coaching is delivered. The theory of change comprises:

- **Outcomes:** The most frequently reported positive outcomes for mentees were improved teaching practices and enhanced professional learning and development. A wider range of further attitudinal, cognitive, behavioural, motivational, physiological, socialisation, career-development, professional-status and personal outcomes (eg enhanced wellbeing, resilience and self-efficacy) were also reported. We found similar positive outcomes cited for **mentors**, but there is less justification for these. There is also less justification for **pupils'** outcomes, with the most common being improved attainment. The only common theme relating to outcomes for **organisations** was an enhanced culture.
- **Active ingredients:** The literature suggests there may be four key active ingredients – that is, features of mentoring or coaching relationships that are necessary for triggering the mechanisms that lead to intended mentee outcomes:
 1. A sustained, productive mentor-mentee relationship
 2. Establishing mentees' goals, so as to provide a key focus for the mentoring relationship
 3. Facilitation of mentees' learning
 4. Provision of emotional and psychosocial support
- **Mechanisms:** A range of psychological, behavioural, neuroscience and sociological theories are proposed to explain the mechanisms through which these active ingredients lead to positive outcomes.
- **Modifiers:** Features of mentoring programmes and the way the mentoring relationship is enacted can modify (enhance or reduce) the positive effects of the mentoring or coaching. The provision of effective mentor training was the most frequently evidenced modifier associated with mentoring and coaching programmes.
- **Contextual factors:** A range of mentor, mentee, provider and school characteristics, as well as wider contextual factors, can also enhance or reduce the potential positive impacts of mentoring and coaching.

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1. Introduction

1.1 Research context

Research shows that school-based mentoring and coaching can have significant positive impacts, notably on beginner teachers' professional learning and development (which, in turn, influences their effectiveness as teachers and their capacity to facilitate pupil learning), as well as on their wellbeing and retention in the profession (Goldhaber et al, 2020; Hobson et al, 2009a). In addition, there is evidence of positive impacts on the professional learning and development, career progression and wellbeing of mentors, and on organisational cultures (Hobson, 2021; Simpson et al, 2007). Research has also found, however, that the potential positive impacts of mentoring and coaching are not always realised, for a variety of reasons (Hobson and Malderez, 2013; Kraft et al, 2018).

One potential explanation for the mixed success with which mentoring and coaching are deployed in schools is that there are many different theories, models, frameworks and approaches to mentoring and coaching in use, and some of these are likely to have greater potential impact than others (Hobson and Maxwell, 2020). Another reason is that various conditions said to be associated with successful mentorship (for example, effective mentor selection and training, and the provision of subject-specialist mentors) are not always in place (Ellis et al, 2020; Orland-Barak and Wang, 2021).

The commonalities and differences between mentoring and coaching have been the subject of much debate, and there remains a lack of consensus on areas of conceptual and practice overlap (Hobson = van Nieuwerburgh, 2022). We find the debate unproductive in advancing effective mentoring and coaching, and in [Section 2](#) we review different definitions and present an overarching definition, which we use in this study to encompass both mentoring and coaching.

1.2 Conceptual review aims, objectives and scope

This study is part of a four-stage project funded and led by the NIoT, with oversight from an expert panel.⁵ The objectives of the conceptual review were to:

1. Provide an overview of the varying perspectives on key terms, definitions, concepts, models, features, intended outcomes and moderating variables in the field of teacher mentoring and coaching research, drawing out overlaps and differences.
2. Develop a hypothesised overarching framework for teacher mentoring and coaching, such as a theory of change (ToC) or theory of action.
3. Inform the scope and design of the related current practice survey and rapid evidence review.
4. Produce a publishable report that summarises the main outcomes of the conceptual review, and may help to establish a broader and deeper understanding of mentoring and coaching within the education sector.

⁵ Expert panel membership can be found in [Appendix 1](#).

Recommendations for effective practice will be developed (in consultation with the expert panel), following the rapid evidence review, which will test some of the hypotheses presented in this conceptual review against the quantitative causal literature and associated implementation studies.

While the conceptual review is intended to inform further research on the mentoring and coaching of trainee and early career teachers, it is broader in scope, drawing on literature on a range of models and frameworks that are deployed across the education sector, and on empirical reviews of effective mentoring and coaching, some of which focus on teachers in general or professionals in other workplace settings. To make the research process manageable, and the production of a single conceptual review and research synthesis feasible, the scope of our analysis was restricted to *formal* mentoring and coaching programmes and *one-to-one* mentoring and coaching relationships. This is not to suggest that informal mentoring and coaching (eg Tong and Kram, 2013), group mentoring and coaching (eg Mitchell, 1999) or dispersed mentoring and coaching (Hobson et al, 2009b) are not also potentially valuable, but they are beyond the scope of the present review.

From this point in the report, unless we refer to a specific mentoring or coaching model, framework or approach, we use the terms mentor, mentee and mentoring to be inclusive of coach, coachee and coaching, for reasons of convenience and readability, and to be consistent with our adoption of a single, overarching definition that applies to mentoring and coaching.

1.3 Methodology

To address the research objectives, we undertook a rapid review of literature on mentoring and coaching models and frameworks, and of empirical reviews of the impacts and outcomes of mentoring and coaching. We analysed 19 empirical reviews and 48 sources, between them providing details on 18 mentoring or coaching models or frameworks. Details of the methodology and how our analyses informed our findings are set out in [Appendix 2](#). The development of the findings presented in this report was also informed by our knowledge of the wider mentoring and coaching literature.

1.4 Conclusion

This introduction has set out the research context and the study aims, objectives and scope.

- In [Section 2](#), we highlight some issues with attempts to define and distinguish between mentoring and coaching, present the overarching definition adopted for this study and explain how we are using other relevant terms related to mentoring and coaching.
- In [Section 3](#), we explore similarities and differences across different models and frameworks, and the extent to which these fit within an original, overarching typology of mentoring and coaching models, frameworks and approaches.
- In [Section 4](#), we present a provisional theory of change to explain how mentoring and coaching can lead to positive outcomes, and examine the factors that may enhance or diminish the potential positive effect.

1. Mentoring and coaching definitions

2.1 Introduction

We begin this section by outlining some issues with defining and attempting to distinguish between mentoring and coaching. We then present and discuss our working definition of mentoring and coaching, before outlining definitions of other terms commonly associated with them.

2.2 Issues with defining and contrasting mentoring and coaching

A vast number and wide variety of definitions of both mentoring and coaching have been provided in the literature, and many writers have attempted to differentiate between the two. However:

- There is no universally agreed definition of mentoring or coaching.
- Both mentoring and coaching are contested concepts (Kemmis et al, 2014), and are used, understood and conceptualised in different ways in different (and sometimes even similar) settings.
- Attempts to differentiate between mentoring and coaching themselves often differ (and are thus inconsistent), and are often flawed because the accounts of mentoring or coaching they provide are not representative of the multiplicity of models, frameworks, approaches to and enactments of mentoring and coaching.
- Some definitions of mentoring encompass some approaches to coaching, while some definitions of coaching equally apply to some approaches to mentoring (Hobson = van Nieuwerburgh, 2022).

For these reasons, we do not consider it a fruitful exercise to attempt to differentiate between mentoring and coaching. Instead, and **because mentoring and coaching are similar, helping relationships, we find it more productive to work with – and offer – a single, broad definition of both mentoring and coaching, which encompasses a wide range of mentoring and coaching theories, models, frameworks, styles and approaches.**

2.3 Our working definition of mentoring *and* coaching

To address the issues outlined above, we have adapted Smith et al's (2009)⁶ definition of coaching, to provide an overarching definition that captures the essence of both coaching and mentoring:

Mentoring and coaching are facilitative or helping relationships intended to achieve some type of change, learning, and/or enhanced individual and/or organisational effectiveness.

⁶ Smith et al (2009), drawing on a range of sources, define coaching as 'a facilitative or helping relationship with the purpose of achieving some type of change, learning and new level of individual or organizational performance' (p. 147).

The specific forms of *change, learning, individual and organisational effectiveness* that mentoring or coaching may be intended to bring about vary across contexts, specific programmes and specific mentoring relationships within those programmes. Such variation often reflects policy, institutional and individual priorities.

Some narrower or more specific definitions of mentoring or coaching explicitly refer to particular desired outcomes. For example:

- Sutton et al (2011) define teacher coaching as a process through which a coach:
'Works collaboratively with a teacher to improve that teacher's practice and content knowledge, with the ultimate goal of affecting student achievement' (p15; emphasis added).
- In the context of early career teachers, Hobson (2016) defined mentoring as:
'A one-to-one relationship between a relatively inexperienced teacher (the mentee) and a relatively experienced teacher (the mentor), which aims to support the mentee's learning, development and wellbeing, and their integration into the cultures of both the organisation in which they are employed and the wider profession' (p88; emphasis added).

The goals, aims, objectives or desired outcomes of mentoring and coaching are discussed further in Sections [3](#) and [4](#). We would add that, while such outcomes usually or predominantly relate to the mentee or coachee, some models, frameworks and approaches to mentoring and coaching stress the interdependent nature of mentoring or coaching relationships and their potential positive impacts on both participants. For example, relational mentoring is defined as:

'An interdependent and generative developmental relationship that promotes mutual growth, learning and development within the career context' (Ragins, 2005, p10; cited in Fletcher and Ragins, 2007, p374; emphasis added).

2.4 Other terminology

In this section we define how we are using key terms that are applied to mentoring and coaching in this study.

Mentoring or coaching models, frameworks and approaches

We take mentoring and coaching 'models and frameworks' (e.g. educative mentoring or instructional coaching) to comprise 'bundles' of aims, assumptions, orientations, principles, processes and theories, usually (but not always) with an explicit underlying rationale and/or theory of change. Models and frameworks describe how mentoring or coaching should be implemented and enacted, and are rarely – if ever – unique. Key features of most individual models and frameworks can be found, with varying degrees of emphasis, in a number of other models and frameworks.

We use the term 'approach' to describe any individual or collective strategies and/or processes that are implemented in mentoring or coaching programmes or relationships. These are often

associated with particular aims or orientations, which may be adopted or championed by particular organisations or policy-makers.

Mentoring or coaching principles and theories

Principles are statements about what is required for mentoring or coaching to be effective. For example, mentoring requires a trusting, confidential relationship based on mutual respect.

Mentoring and coaching theories offer explanations of how models, frameworks, programmes or sets of principles may lead to desired outcomes. These explanations often draw on established psychological or sociological theories, for example, social learning theory (Bandura, 1977), humanistic psychology (Maslow, 1954; Rogers, 1961; Noddings, 1992) and Bourdieu's theory of social capital (1986). In some instances, the explanations rely more heavily on empirical evidence of observed effects. The theoretical justification for a specific mentoring or coaching model or framework may draw on several different theories.

Mentoring or coaching programmes

These are formal mentoring or coaching schemes that are implemented within or across organisations. Some are a (relatively) faithful adoption of a specific model or framework, or an adaptation of a model or framework. Others draw more eclectically on some key mentoring or coaching principles and/or theories, or represent a more idiosyncratic compilation of ideas about how mentoring or coaching should be undertaken.

In some studies, particularly those with an experimental or quasi-experimental design, the mentoring or coaching programme may be referred to as the mentoring or coaching intervention.

2.5 Conclusion

In this section, we have outlined and explained key definitions relating to mentoring and coaching, as well as our overarching definition. In the next section, we will discuss mentoring and coaching models and frameworks.

3. Mentoring and coaching models and frameworks

3.1 Introduction

The literature on mentoring and coaching – both in education and more broadly – abounds with recommended models and frameworks, which are mostly developed by academics and, to different degrees, informed by mentoring and coaching research. Our review of 18 mentoring or coaching models and frameworks that have informed work in schools and other education institutions (see [Appendix 3](#)) demonstrated that many of these share common features, while some models and frameworks are also differentiated from others in important respects. It is our perception that many approaches to mentoring and coaching in use in schools, which in some cases are shaped by national policy, guidelines or standards, do not appear to be informed by or aligned to any great extent with any one of these models or frameworks.

3.2 A mentoring and coaching typology

Based upon our analysis, and informed by the wider mentoring and coaching literature, mentoring and coaching programmes, practice, enactments, policy, guidelines and standards, we suggest that there are three generalised mentoring and coaching types.⁷ These are:

- **Type 1: *Hierarchical-transmission*** mentoring and coaching
- **Type 2: *Nonevaluative-developmental*** mentoring and coaching
- **Type 3: *Collaborative-transformative*** mentoring and coaching.

We are not seeking to suggest that any of these mentoring types are superior to others. In fact, we do not consider the research evidence to be conclusive on this matter at the current time. It also seems likely that different mentoring types, models and frameworks may be more or less appropriate for different mentees in different contexts at different times.

Each of our proposed mentoring types, summarised below, has a dual label in which the first part refers to a key feature of the mentoring relationship and the second part to a key underlying goal of the mentoring relationship or programme.

⁷ Our reference to three generalised mentoring types aligns with the Weberian notion of 'ideal types' (Weber 1904/1949). These are not ideal in the sense of being perfect, optimal or exemplary. Rather, ideal types are analytical constructs that accentuate specific features and emphasise points of difference, in this case between different mentoring and coaching models, frameworks and approaches.

Type 1: Hierarchical-transmission mentoring and coaching

Characteristics of the hierarchical-transmission mentoring and coaching type are:

- The mentee is positioned as protégé and the mentor as expert.
- Mentoring is focused on improving the mentee's performance – notably their teaching practice/capability.
- Mentoring is relatively directive, with the mentor providing direct advice and solutions to help address issues encountered by mentees.
- The primary foci of the mentoring include:
 - Inducting the mentee into the norms and practices of the organisation (e.g. school)
 - Addressing or remedying perceived weaknesses or limitations in the mentee's performance/practice
 - Seeking to ensure that the mentee meets and acts in accordance with externally prescribed standards or expectations.
- The mentor may be involved in the formal, summative assessment as well as formative evaluation of mentees.
- The mentor may line manage or supervise the mentee.

Our hierarchical-transmission mentoring and coaching type draws upon and shares key features with:

- Kochan and Pascarelli's (2012) 'traditional' cultural purpose of mentoring, which focuses on transmitting the existing culture, values or beliefs of an organisation
- Aguilar's (2013) categorisation of directive or instructive coaching models, in which the expert coach is said to focus on seeking to change the coachee's teaching behaviours (Ali et al, 2018)
- Kemmis et al's (2014) archetype of 'mentoring as supervision', which they portray as *'preparing new teachers during a process of probation so that they can meet the requirements for registration as fully qualified, autonomous members of the profession'*(p159), and which they found to be characteristic of the mentoring of newly qualified teachers in New South Wales, Australia.⁸

Our review of the 18 mentoring and coaching models and frameworks outlined in Appendix 3 did not identify any as including all of the identified features of hierarchical-transmission mentoring or coaching. Some accounts of instructional coaching (e.g. Farndon, 2019) include several features of the hierarchical-transmission type, particularly the focus on identifying limitations in teaching practice and improving performance. Similarly, the proponents of the clear mentoring model (Lejonberg and Tiplic, 2016) champion and evidence newly qualified

⁸ This is not to say that 'mentoring as supervision' was found to be the only feature of mentoring in this context at the time of the study; mentoring as support was also evident (Kemmis et al, 2014).

teachers' appreciation of mentors' communication of their evaluations, advice and 'clear feedback'.

While few mentoring or coaching models or frameworks conform to the hierarchical-transmission generalised type, we consider that this characterises much of the prevalent approach to the mentoring of trainee teachers in England since mentoring became a formal, key feature of initial teacher education and training in the 1980s, and that this approach has been encouraged by national guidelines. For example, in outlining the role of the mentor, the National Standards for school-based initial teacher training mentors (DfE, 2016) state that '*A mentor should understand the...requirement of trainees to meet the Teachers' Standards. They should ... **monitor** [trainees'] **performance**, and help develop their teaching practice and effective classroom management strategies'* (DfE, 2016, p8; emphasis added). The same official document notes that '*effective training supports mentors to further improve their practice by training them in how to deconstruct and articulate their practice, how to coach and how to support and **assess** trainee teachers effectively'* (p7; emphasis added). This reflects and encourages mentors' continued involvement in the formal, summative assessment of trainees' practice, effectively acting as gatekeepers to the profession.

However, in its response to the 2017 consultation *Strengthening Qualified Teacher Status (QTS) and improving career progression for teachers* (DfE, 2018), and the subsequent statutory guidance on Induction for early career teachers (DfE, 2021), the Department for Education in England has stated that the mentoring role should normally be separated from that of induction tutor. Instead, it suggests that mentors should not be involved in the formal assessment of their mentees. This separation may be seen to herald a partial shift away from a hierarchical-transmission approach to mentoring early career teachers.

Finally, while elements of a hierarchical-transmission approach to mentoring have been and may continue to be considered appropriate for trainee and early career teachers, who may be in greater need of the support of an experienced teacher-mentor or coach than those at later stages of their career, some studies have identified impediments to teachers' professional learning, development and wellbeing resulting from hierarchical, evaluative and remedial approaches to mentoring, which have been termed judgemental mentoring (Ingleby and Tummons, 2012) or 'judgementoring' (Hobson and Malderez, 2013).

Type 2: Nonevaluative-developmental mentoring and coaching

Characteristics of the nonevaluative-developmental mentoring and coaching type are:

- Mentoring is relatively non-directive, with mentees supported to find their own solutions to issues they encounter.
- There is a greater emphasis on professional growth and building on mentees' strengths, rather than remedying perceived weaknesses.
- The foci of the mentoring include:
 - Development of the mentee's knowledge and practice (e.g. pedagogy) in both the short and longer term, including their capacity to support their ongoing development after the mentoring relationship has ended
 - Support for the mentee's wellbeing and induction into the organisation (e.g. school) and wider profession
 - Support for the mentees' evolving individual learning and development needs and identity development, alongside an effort to ensure that they meet organisational expectations and externally prescribed standards.
- The mentor is not normally involved in the formal assessment or line management of their mentees.

Our nonevaluative-developmental mentoring and coaching type is associated with:

- Kochan and Pascarelli's (2012) 'transitional' cultural purpose of mentoring, which focuses on fostering growth in mentees to help them operate successfully within organisations, while maintaining their own cultural identity
- Aguilar's (2013) categorisation of 'facilitative' coaching models, in which the coach seeks to facilitate the coachee's self-directed learning of '*new ways of thinking and being through reflection, analysis, observation and experimentation*' (Ali et al, 2018, p509)
- Kemmis et al's archetypes of 'mentoring as support' (2014), which they observed in Sweden and described as '*a process of professional support and guidance for a new teacher, in which a mentor, who is not usually in a supervisory relationship with the mentee, assists the mentee in the development of their professional practice in the job*' (pp159-60).

Our review of the mentoring and coaching models and frameworks listed in [Appendix 3](#) found that several of these shared many of the characteristics of our nonevaluative-developmental mentoring and coaching type, including adaptive mentorship (Ralph and Walker, 2010), developmental mentoring (Clutterbuck, 2004), compassion-based coaching (Boyatzis et al, 2013), and ONSIDE mentoring (Hobson, 2016). For example, all of these include a major focus on the importance of adapting mentoring to the evolving individual learning, development and emotional needs of the mentee.

Type 3: Collaborative-transformative mentoring and coaching

Characteristics of the collaborative-transformative mentoring and coaching type are:

- Mentor and mentee (or co- or peer-mentors) have a collaborative, reciprocal, equal status relationship.
- Mentoring is non-directive, with both parties supporting each other in pursuing their self-determined professional learning and development goals, and finding their own solutions to issues they encounter.
- An emphasis on professional growth and building on mentees' strengths, rather than remedying perceived weaknesses.
- A key focus of the mentoring is supporting mentees or co-mentors to challenge the status quo (eg organisational norms and practices) and, in some instances, to seek to tackle inequalities to bring about social-justice changes.
- Mentors/co-mentors do not line manage or formally assess the performance or practice of mentees/co-mentors.

The collaborative-transformative mentoring and coaching type draws upon and shares key features with:

- Kochan and Pascarelli's 'transformational' cultural purpose of mentoring (2012), which aims to foster mutual growth for the mentor and mentee, and involves intensive questioning of existing norms and values
- Aguilar's categorisation of transformational coaching models (2013) that seek to bring about change in: '*(a) the teachers' behaviours, beliefs and being; (b) the schools in which the teacher works and the other teachers, students and administrators who are in the same school and (c) the broader educational or social systems*' (Ali et al, 2018, p509)
- Kemmis et al's archetype of '*mentoring as collaborative self-development*' (2014), which sees mentoring as '*a process to assist a new teacher to become a member of a professional community in which members participate as equals in professional dialogue aimed at their individual and collective self-development*', and which was said to have become '*the most common form of mentoring practice*' in Finland in recent years (Kemmis et al, p160).

Our review of the mentoring and coaching models and frameworks listed in [Appendix 3](#) found that a number of these shared many characteristics of our collaborative-transformative type, most notably transformational mentoring (Crow and Grogan, 2017; Kochan and Pascarelli, 2012), educative mentoring (Feiman-Nemser, 1998, 2001), mentoring for social justice (Duckworth and Maxwell, 2015) and dialogic mentoring and coaching (Bokenko and Gantt, 2000; Nahmad-Williams and Taylor, 2015). For example, drawing upon Feiman-Nemser's earlier work, Langdon and Ward (2015) depict educative mentoring as an approach that is characterised by mentee and mentor engaging in joint inquiry, critiquing theoretical and practical knowledge and problematising the status quo, with the potential to 'transform student learning' (p243).

Caveats, commonalities and contrasts

As noted above, our generalised mentoring and coaching types accentuate specific features and emphasise points of difference between different models, frameworks and approaches. It is thus inevitable that while some models and frameworks may fit quite neatly with a particular generalised type (eg educative and transformational mentoring with the collaborative-transformative type), others fit less neatly. Thus some models and frameworks share different features of different types, or emphasise other aspects of mentoring and coaching that are not core features of the generalised types or of most other models and frameworks. For example, Hollweck and Lofthouse's account of contextual coaching (2021) shares some features of both the non-evaluative developmental and the collaborative-transformative types, while emphasising that, for effective coaching programmes, *'a deliberate and iterative design and structure attuned to the setting and contributing to the context is critical'* (p413).

It is also the case that mentoring and coaching models and frameworks evolve over time, and that different accounts of these (by different authors or by the same authors over time) emphasise different features and desired outcomes of mentoring and coaching relationships. Furthermore, there are commonalities as well as points of divergence between the different mentoring and coaching types. For example, the hierarchical-transmission and nonevaluative-developmental types are both uni-directional. Equally, both the nonevaluative-developmental and collaborative-transformative types emphasise growth rather than deficit approaches to professional learning and development.

3.3 Outcomes associated with different mentoring types, models and frameworks

It is important to recognise that, despite some commonalities, different mentoring and coaching models and frameworks have varying aims, goals or desired outcomes. It may also be the case that different models and frameworks – or mentoring and coaching types – are more or less appropriate than others for meeting the needs of different mentees with different professional learning and development needs and at different career stages. It might be argued, for example, that trainee teachers are not yet ready for collaborative-transformative mentoring or coaching, at least in the early stages of their development, and that support from an experienced teacher-mentor in a uni-directional mentoring relationship might be more appropriate.

It is also important to recognise that:

- Mentoring can support mentees' short-term *and* longer-term goals and development.
- Some mentoring and coaching models and frameworks may be better suited to the facilitation of particular short- or longer-term outcomes.

We might hypothesise, for example, that a hierarchical-transmission approach – and particular models and frameworks such as clear mentoring (Lejonberg and Tiplic, 2016) – might be relatively adept at facilitating positive short-term impacts on mentees' acquisition of teaching capability. Meanwhile, others – notably those associated with the nonevaluative-developmental and collaborative-transformative mentoring and coaching types – may be more likely to realise longer-term impacts. In fact, some models and frameworks explicitly focus on the need for mentors to facilitate both the short- and longer-term development of mentees, including their capacity to support their own continued professional learning and development beyond the duration of the mentoring relationship. For example:

- ONSIDE mentoring (Hobson, 2016) promotes a strategy of '*progressively non-directive*' mentoring (p100), with mentors providing relatively direct support and advice in the short term and where mentees need it, while seeking to empower mentees to learn and develop from their own and others' subsequent experiences of teaching, and to find their own solutions to issues they encounter.
- Educative mentoring was defined by its original proponent as '*Mentoring that helps novices learn to teach and develop the skills and dispositions **to continue learning in and from their practice***' (Feiman-Nemser, 1998, p66; emphasis added). 'mentors are charged to '*attend to beginning teachers' present concerns, questions, and purposes without losing sight of long-term goals for teacher development*' (Feiman-Nemser, 2001, p18).

However, we have not undertaken a systematic review, and the evidence we have drawn upon is not sufficiently robust to verify all the hypotheses set out above. Further empirical research is needed to establish whether different approaches to mentoring and coaching are more appropriate for achieving short- or long-term outcomes at different stages of teachers' careers. The NIOT's rapid evidence review aims to go some way towards identifying appropriate approaches for trainee and early career teachers.

3.4 Conclusion

In this section, we have presented an original typology of mentoring and coaching models, frameworks and approaches, which has informed a discussion of commonalities and points of divergence between different models, frameworks and practices. As Hollweck and Lofthouse (2021) have emphasised, there is no single best way to enact coaching in education, and the same applies to mentoring. This may partly explain why a plethora of different mentoring and coaching models, frameworks and approaches have been developed and deployed.

It seems likely that some such models, frameworks and approaches may be more successful than others in achieving specific desirable short- or long-term outcomes at different stages of a teacher's career. Our knowledge of the field suggests that the evidence base relating to these questions is currently insufficiently developed, and that further research is required. The NIOT's forthcoming rapid evidence review will contribute to addressing this knowledge gap by systematically reviewing evidence on the impact of some key features of mentoring and coaching on some short- and long-term outcomes.

4. Towards a theory of change

4.1 Introduction

Theories of change (ToCs) explain how an intervention, initiative or programme can lead to its intended outcome or outcomes. In this section, we first set out our definitions of the terms we use to describe the components of a ToC and to explain how we apply those terms in this study. We then set out an overview of our provisional mentoring and coaching ToC, before presenting the findings of our review in relation to each of the ToC components.

4.2 Definition and application of ToC terms

Proximal and distal outcomes

This study identified both proximal and distal outcomes that may be generated through mentoring and coaching. **Proximal outcomes**, sometimes referred to as intermediate outcomes – for example, increased satisfaction with being a teacher – are usually achieved in the shorter term (e.g. during the intervention, initiative or programme). Meanwhile, **distal outcomes** – for example, retention in the profession – are the final intended outcomes, often achieved at the end of, or following, completion of the intervention, initiative or programme.

Active ingredients

To explain the causal processes that link participating in mentoring and coaching to positive outcomes, we drew on the concepts of active ingredients, mechanisms, modifiers and contextual variables. We extend Sheridan et al's (2014) definition of **active ingredients** to span:

Those unique components of a model, framework, approach or intervention that constitute what is hypothesised as responsible for targeted teacher, student and wider outcomes.

Active ingredients are limited to the irreducible features of mentoring or coaching that are essential to trigger the causal mechanisms that lead to the intended outcomes. They do not include surface features, such as one-to-one mentoring. If active ingredients are absent, then the associated potential causal mechanism or mechanisms are not triggered, and the intended positive outcome or outcomes are not achieved.

Mechanisms

Drawing on Morris et al's (2016) and Lewis et al's (2020) conceptualisations, we define a **mechanism** as:

A process through which one or more active ingredient operates to affect one or more of the intended distal outcomes.

In this case, mechanisms include the responses of mentees and mentors to active ingredients within mentoring interactions, and of pupils to the actions of teachers whose practice is affected by mentoring interactions. They also include the achievement of proximal outcomes, some of which may then mediate the achievement of the distal outcomes. For mentoring or coaching to achieve positive distal outcomes, there has to be an association between one or

more active ingredients and one or more mechanisms, *and* an association between the mechanism and the desired distal outcomes.⁹

Modifiers

Many key features of mentoring and coaching, and the programmes within which they are located, are not essential for triggering causal mechanisms. However, they may significantly increase or reduce the impact of the mentoring or coaching on the intended outcomes. We class these as *modifiers* associated with the enactment of mentoring (eg the mentor building on their mentee's strengths) or the mentoring programme (eg the provision of effective mentor training). Some of these are also the elements over which mentoring programme providers and schools can have most influence.

Contextual variables

We also identified *contextual variables*, which include factors related to mentor and mentee characteristics, school context and the wider educational context. Contextual variables may also significantly increase or reduce the impact of the mentoring or coaching on the intended outcomes.

4.3 ToC overview

The provisional theory of change (Figure 1) focuses on the achievement of positive outcomes for mentees and the students they teach. While we have identified outcomes for mentors and organisations in our review, the development of a ToC for these outcomes is beyond the scope of this study.

The ToC shows the causal chain that links the enactment of the mentoring and coaching relationship to active ingredients, mechanisms (including proximal outcomes) and distal outcomes for mentees. It also indicates how modifiers associated with the enactment of mentoring and mentoring programmes and contextual variables may impact on the causal process, and how the causal process itself may act on and modify the contextual variables.

It is important to note that the provisional ToC diagram has necessarily been designed at high level of abstraction. As such, it does not represent important differences, for example in intended outcomes, between different mentoring and coaching models, frameworks and approaches. We draw attention to some of these differences in the remainder of this section, as we present further details on the ToC components. It also does not depict how mentoring and coaching may lead to negative mentee outcomes, which is briefly considered in [Section 4.4](#).

We have only included outcomes ([Section 4.4](#)), active ingredients ([Section 4.5](#)), mechanisms ([Section 4.6](#)), modifiers ([Section 4.7](#)) and contextual variables ([Section 4.8](#)) for which we found some empirical evidence or theoretical justification. Reflecting the breadth of study types reviewed, we use the term 'empirical evidence' to span quantitative, qualitative and mixed methods findings, and have not made any judgements about causal inference.

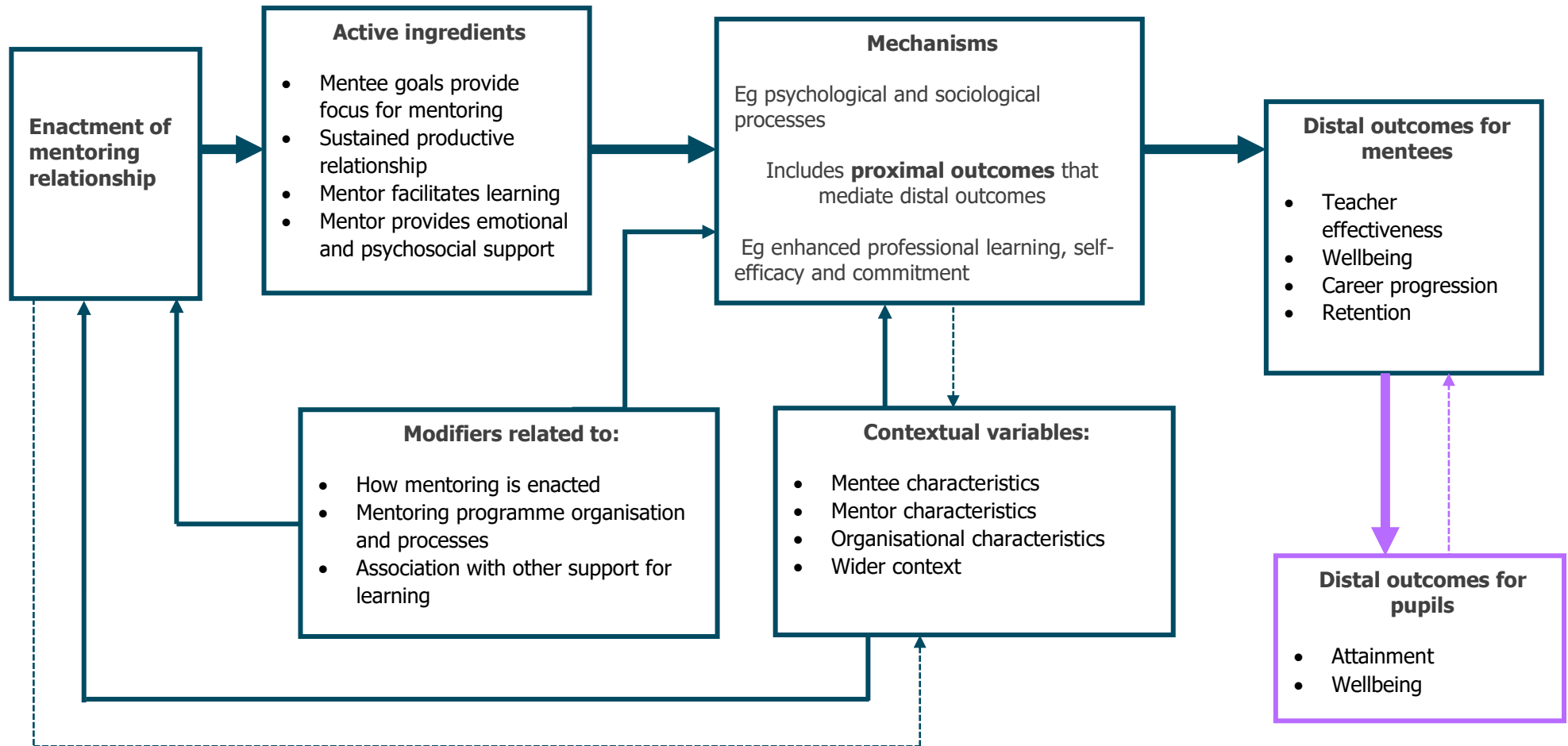
⁹ That is, all parts of the mechanism, including the mediating proximal outcomes, are associated with the distal outcomes.

Our review was not comprehensive, and an absence of evidence does not necessarily indicate the absence of an outcome, variable or mechanism. In addition, many authors did not use the terms we have set out, so we have had to interpret their intended meaning. In some instances, it was difficult to establish whether features associated with mentoring or coaching relationships or programmes were considered by authors to be active ingredients or modifiers.

We recognise that our proposed generic ToC – as opposed to a ToC relating to a specific mentoring or coaching type, model, framework or approach – is inevitably partial and tentative, and may not fully account for variation across the many models, frameworks and approaches. Nonetheless, the themes we have identified from mentoring and coaching literature provide plausible, evidence-informed explanations of how mentoring and coaching may lead to their intended outcomes, and how the achievement of such outcomes may be optimised.

Those designing mentoring programmes may want to consider using this framework as a tool to aid the design and evaluation of mentoring and coaching programmes.

Figure 1: Provisional theory of change for mentoring and coaching¹⁰



¹⁰ In this figure, as elsewhere in the report, we use the terms mentor, mentee and mentoring to be inclusive of coach, coachee and coaching.

4.4 Outcomes

In this section, we use the term 'justified' to encompass outcomes that have been evidenced empirically and those for which a theoretical rationale has been provided. It is also important to note that some of the models and frameworks in the literature included empirical evidence as well as theoretical justification.

Mentee outcomes

A range of positive attitudinal, cognitive and behavioural mentee outcomes were justified empirically and/or theoretically across the sources we reviewed. Box 1 below lists all outcomes that were justified in at least 10 of the empirical studies and/or in one or more sources related to the individual models and frameworks.

Box 1: Most frequently justified positive mentee outcomes

- Improved teaching practice
- Professional learning and development – most frequently reported in general terms, with some instances of more specific outcomes identified. Particularly enhanced:
 - Knowledge and understanding
 - Thinking processes, judgements and decision-making
 - Capacity for reflection in and/or on practice
- Increased sense of self-efficacy
- Increased sense of agency, autonomy and empowerment
- Enhanced wellbeing
- Retention in the profession

Improved teaching practice was the most frequently identified outcome in both the models, frameworks and empirical-review literature – it was justified in 20 of the 37 critical summaries. Kraft et al (2018) explicitly defined practices as encompassing '*pedagogical practices (eg the use of open-ended questions)...teacher-student interactions (eg relationships), student-content interactions (eg student engagement) and the interactions among teachers, students, and content (eg classroom climate)*' (p554). However, in most of the other sources that focused on teacher mentoring, the authors either justified positive pedagogical practices or did not provide detail on the specific teaching practices that were improved.

Justifications for all the other frequently mentioned outcomes, with the exception of retention, came primarily – but not exclusively – from the models' and frameworks' literature rather than empirical reviews. Stronger evidence for retention in the empirical reviews might be expected as data on teacher retention provide a robust, relatively easily accessible measure of the impact of mentoring or coaching.

Enhanced professional learning and development, which was predominately justified in the models and frameworks sources, was often referred to in quite general terms. There were indications that some authors incorporated a number of the other frequently justified outcomes (e.g. enhanced capacity for reflection in or on practice and enhanced decision-making) into this broader category of outcome.

As Box 2 below illustrates, a broader span of less frequently reported positive outcomes for mentees was found. These included additional attitudinal, cognitive and behavioural outcomes, as well as motivational, physiological, career development, professional status and personal outcomes.

Box 2: Less frequently justified positive mentee outcomes

Attitudinal, cognitive and behavioural outcomes

Enhanced:

- Perceptual, emotional, cognitive and behavioural openness
- Creativity
- Resilience
- Self-awareness
- Confidence
- Ability to learn from their own and others' subsequent experience and practice
- Commitment to – and willingness to – take responsibility for action
- Conceptual transformation
- Ability to challenge inequalities to promote social justice

Motivational outcomes

- Increased motivation and enthusiasm for teaching

Physiological outcomes

- Neurogenesis (the triggering of new neural connections)

Career development

- Job satisfaction
- Enhanced career progression
- Extended professional networks

Socialisation

- Socialisation within the organisation and profession
- Organisational commitment and citizenship

Professional status

- Enhanced ability to meet probation, registration and other professional standards

Personal

- Enhanced ability to achieve intended goals (set by the mentee)
- Enhanced life or personal situation
- Personal transformation

Authors rarely explicitly distinguished between proximal and distal outcomes. However, most authors appeared to consider teacher effectiveness (usually justified by a positive impact on pupil attainment), wellbeing, career progression and retention to be distal outcomes. Most of the other outcomes were described in ways that suggested authors considered them to be mediating variables for the distal outcomes.

Evidence of negative outcomes for mentees was only reported in one empirical review (Hobson et al, 2009a), and a small number of models and framework sources (eg Kemmis et al, 2014; Lejonberg and Tiplic, 2016). The negative impacts identified related to mentees’:

- Professional learning and development
- Wellbeing
- Retention
- Professional agency, autonomy and professionalism.

There is limited evidence to illuminate why negative outcomes occur.

Mentor outcomes

In the sources we reviewed, theoretical justification and empirical evidence of outcomes for mentors was significantly more limited than for mentees, although the wider mentoring and coaching literature does recognise a range of mentor outcomes (e.g. D’Souza, 2014; Holland, 2018; Kutsyruba, 2012).

The enhanced professional learning and development of mentors was the most frequently referenced outcome, appearing in relation to eight mentoring models or frameworks and one empirical review (Hobson et al, 2009a). As for mentees, this was often referred to in general terms, and likely encompasses some of the more specific outcomes set out in Box 3 below.

Box 3: Positive mentor outcomes

Most frequently justified outcome

- Professional learning and development

Outcomes justified across several models or reviews

Enhanced:

- Knowledge and understanding
- Reflection
- Teaching practices
- Wellbeing

Outcomes justified less frequently

Enhanced:

- Confidence
- Perceptual, emotional, cognitive and behavioural openness
- Creativity
- Resilience
- Neurogenesis
- Teacher identity

- Professional status
- Career progression
- Retention in the profession
- Personal growth and transformation
- Organisational commitment and citizenship

Negative impacts for mentors were only evidenced in one review (Hobson et al, 2009a). These were an increased workload, which sometimes led to increased stress and a detrimental impact on wellbeing. In addition, Kemmis et al's (2014) description of 'mentoring as supervision' pointed to mentor deprofessionalisation through reduced professional agency, as mentors' complied with externally set performance standards.

Pupil outcomes

There was relatively limited justification in the models and frameworks literature and the empirical reviews of outcomes of mentoring for pupils. The most frequently justified outcome was improved pupil attainment (empirically evidenced in Ali et al, 2018, Kraft et al, 2018, Ingersoll and Strong, 2011; and Sims et al, 2021). There were fewer empirical or theoretical justifications for improved engagement, motivation, behaviour, learning and progress, and wellbeing.

Organisational outcomes

Neither empirical evidence nor theoretical justification of impacts of mentoring and coaching on organisations was widespread across the literature reviewed. The only common theme to emerge was the creation of an enhanced culture which was justified in Ali et al's, 2018 and Hobson et al's 2009a reviews and in the literature on five models and framework. Other outcomes justified were: organisational effectiveness higher quality work relationships and enhanced adaptability of the organisation (Boyatzis et al, 2013) as well as avoiding reproduction of conventional norms and practices (Hobson, 2009a). While enhanced retention can also benefit schools, most of the evidence on retention did not distinguish between retention in the profession and retention in mentees' or mentors' schools.

4.5 Potential active ingredients

Our analyses indicated that four active ingredients associated with the enactment of mentoring (listed in Box 4 and discussed below) may need to be in place to trigger the causal mechanisms that lead to positive outcomes for mentees. As we noted in the introduction to this section, this is a tentative and hypothesised list, based on our interpretations of authors' meanings.

Box 4: Potential active ingredients

- Sustained, productive mentor-mentee relationship
- Mentee's goals are established, to provide a key focus for the mentoring relationship
- Mentor facilitates mentee's learning
- Mentor provides emotional and psychosocial support

There was some degree of consensus across the models and framework literature and empirical reviews that a **sustained and productive mentor-mentee relationship** may be characterised by the following features, although further testing would be necessary to determine if these are essential irreducible characteristics of the relationship or should be categorised as modifiers of the potential effect on mentee outcomes:

- Development and sustaining of mutual trust and rapport
- High-quality questioning and listening
- Use of relatively directive or non-directive approaches as appropriate to the mentee and context.

The **establishment of mentees' goals** was considered essential across the literature to provide focus and direction to the mentoring. There was, however, variation across the models and frameworks as to whether goals were intended to be set by the mentee, the mentor or as a collaborative endeavour (see [Section 3](#) in relation to variation across the different models and frameworks reviewed). Since there was some evidence of positive impact in each of these three approaches, it appears that the irreducible active ingredient is that goals are set and provide a key focus for the mentoring relationship. By contrast, the nature of the goal-setting process is more likely to be a modifier of the potential effects.

The **facilitation of mentees' learning** was central across the literature reviewed. Below, we have identified those aspects of facilitating learning that are presented by authors as key requisites for achieving desired outcomes across a significant number of models, frameworks and empirical reviews:

- Mentors encourage mentees to be reflective in and on their practice and/or in relation to their development.
- Mentors provide feedback on, for example, mentees' thinking, planning, practice and development.
- Mentors adopt other, appropriate strategies to meet the needs of mentees and the context. Strategies that were most frequently highlighted as leading to positive outcomes were co-planning, modelling, rehearsal and facilitating collaborative working with other staff.

There was insufficient evidence in the literature sources to determine whether:

- a) These three aspects of facilitating mentees' learning listed above are essential active ingredients; or

- b) They act as modifiers of positive effect – so that the irreducible active ingredient can be reduced to a strong focus on mentors facilitating the learning of mentees in ways that are compatible with the intended outcomes.

The provision of **emotional and psychosocial support** by mentors was frequently identified as essential to trigger causal mechanisms – particularly those mechanisms that led to positive impacts on wellbeing, job satisfaction and retention. In addition, some models and frameworks emphasised the central role of emotional and psychosocial support in creating the openness to learning required of mentees. There was insufficient detail to draw out what might constitute essential approaches in the provision of emotional and psychosocial support.

It was also beyond the scope of this review to identify whether all four active ingredients need to be in place to trigger positive outcomes, or whether some outcomes might be achieved in the presence of one or a combination of two or three of the active ingredients. It may be reasonable to assume that the presence of all the ingredients is most likely to lead to the most widespread overall positive impact.

4.6 Potential mechanisms

Issues in identifying causal mechanisms

In the studies reviewed, a range of different types of theory were deployed to explain how positive mentee outcomes were achieved, or to justify the rationale for a particular mentoring model or framework. Where well-established theories were drawn on for rationales they were predominately drawn from the fields of:

- Psychology: eg the use of Bandura’s (1986, 1993) theory of self-efficacy in Pullins’ (2020) empirical study and Bozer and Jones (2018)’s review of effective workplace coaching; and including:
 - Behavioural science: eg Sims et al’s (2021) use of Michie et al’s (2013) behaviour change technique taxonomy
- Neuroscience: eg cognitive-load theory (Sweller et al, 1998), in relation to some iterations of instructional coaching
- Sociology: eg Duckworth and Maxwell’s (2015) use of Bourdieuan concepts to justify the social-justice mentoring model.

Other rationales appeared to draw primarily on the authors’ understandings, usually supported by their interpretations of their own or others’ empirical studies. In some sources, individual rationales drew on a number of theories, sometimes from different fields.

The depth of rationales for models, frameworks and approaches in the literature we reviewed varied considerably – from, for example, Boyatzis et al’s in-depth psychological, physiological and organisational account of ‘coaching with compassion’ (2013), to much lighter-touch rationales.

Interestingly, in some instances different authors considering the same model, framework or approach drew on different theories to provide explanations about how positive outcomes are achieved. For example, the theoretical frameworks in nine of the models of instructional coaching presented in a special Issue of the journal *Theory in Practice* ranged from

behaviourism, constructivism, social-cognitive and cognitive theories to developmental and interactive theories (McDonald, 2017).

The range of differing rationales, variation in the depth of the rationales and absence of any direct reference to (or testing of) mechanisms in the vast majority of sources, meant that it was not possible to draw out with any certainty a clear set of causal mechanisms that are supported by the literature. The identification of a generic set of causal mechanisms for mentoring and coaching may indeed not be possible, given the variation in the nature, aims and intended outcomes across models, frameworks and approaches.

While, for the reasons outlined above, we do not attempt to set out a set of causal mechanisms, we have sought to move understanding forward by presenting below some examples of potential causal mechanisms, for which there is some (albeit generally limited) support for in the literature reviewed.

Potential causal processes triggered by the active ingredients in the shorter term

There appeared to be a clustering of ideas around four potential mechanisms, which are triggered by the active ingredients, and account for the achievement of positive outcomes. It is highly likely that these mechanisms are interrelated, though there was insufficient detail in the literature we reviewed to ascertain precisely how or to what extent this is the case.

The first cluster of ideas focused on the psychological processes that are triggered in a sustained productive relationship characterised by relational trust, and encompassing emotional and psychosocial support. Boyatzis et al (2013) provide a detailed example of coaching with compassion. In this case, the underlying premise is that it is *'the general orientation, or approach to coaching, rather than specific techniques or behaviours, that predicts important outcomes, such as increased learning and performance'* (p154). Drawing on complexity theory and a range of research on positive emotions, Boyatzis and colleagues argue that this arouses coachees' positive emotional state,¹¹ since *'sharing their Ideal Self with someone who listens with interest and strives to help them achieve their aspirations is likely to invoke in the coachee a perception that the coach cares as well as create a feeling of safety'* (p162). This perpetuates a self-reinforcing cycle of positive emotions and positive bias in cognitions, which creates an openness to learning and change. Drawing on attachment theory, Boyatzis et al (2013) argue that the support offered by the coach creates a *'secure base'*, which has been shown to *'have a lasting effect on wellbeing, willingness to take risks and try new things, and development'* (p165). Uniquely among the sources reviewed, Boyatzis and colleagues also connect the arousal of positive emotional states to changes in physiological processes that further amplify the positive effects.

The second cluster of ideas related to potential mechanisms is focused on professional growth, and supports the development of mentees' expertise and wellbeing. The processes triggered by the active ingredients include mentors and organisations moving away from an emphasis on the assessment of mentees' performance and a deficit approach to mentoring, to a focus on support for professional growth and a

¹¹ Boyatzis et al (2013) use the term positive emotional attractors rather than positive emotional state – that is, *'a state of positive affect that involves the physiological arousal of the PNS and corresponding neuroendocrine systems'* (p161). Emotional state is used here, as it more accurately reflects the rationales given across the sources that included some aspects of this potential mechanism.

strength-based approach to mentoring, using less directive and more collaborative techniques. This is said to enhance mentees' openness to sharing with and learning from others, to empower mentees and to increase their responsibility for their own professional learning and development. It is also said to enhance their confidence, resilience and self-efficacy (Clutterbuck, 2004; Hobson, 2020; Netolicky, 2016; Wang and Odell, 2007; He, 2009). While the first and second cluster of ideas relating to potential mechanisms have been presented separately to aid understanding, there is a notable overlap between the two clusters.

The third cluster of ideas is focused on facilitating learning that leads directly to improved performance. Often drawing on behavioural science or neuroscience, the rationales described processes that linked specific techniques such as modelling, rehearsal and feedback to improved practices. For example, drawing on Michie et al (2013), Sims et al (2021)¹² define the process of rehearsal as '*Prompt practice or rehearsal of the performance of the behaviour one or more times in a context or at a time when the performance may not be necessary in order to increase habit and skill*' (p183), and (quoting Ericsson et al, 1993, p367) explain that '*Practice improves accuracy and speed of performance on cognitive, perceptual, and motor tasks*' (p184). Sims and colleagues (p187) also note that techniques such as rehearsal "*promote reliable context-dependent repetition of the target behavior, with the aim of establishing learned context-action associations that manifest in automatically cued behavioral responses*" (Gardner and Rebar, 2019, p1).¹² Such habit-forming mechanisms underly some iterations of instructional coaching (eg Farndon, 2019, n.d.).

The final cluster of ideas focuses on the dialogical processes that underpin open and honest, productive conversations within trusting mentor-mentee relationships, and enables mentees to explore their perceived strengths and limitations, concerns and intentions (Bokenko and Gantt, 2000; Nahmad-Williams and Taylor, 2015). As Bokenko and Gantt observe in relation to dialogic mentoring, and as is noted more widely across various models, frameworks and approaches, generative learning practices are grounded in dialogue. Some coaching models, for example GROW (Whitmore, 2009), explain how the structuring of the conversation and the types of questions used can lead to positive outcomes.

Potential causal processes in the medium and longer term

In the medium to longer term, it appears that **the mechanisms set out above contribute** (usually in some combination) **to the following proximal mentee outcomes** (and potentially others), **which then act individually and in combination as mediators of distal outcomes:**

- Deeper learning
- Enhanced self-efficacy
- Stronger sense of teacher identity
- Positive emotional state and enhanced commitment
- Improved mentee self-regulation
- Enhanced sense of empowerment, autonomy and agency

¹² This review is of professional development more generally, including – but not limited to – mentoring and coaching.

- Enhanced ability to learn from their own and others' subsequent experience and practice.

In this section, we have focused on the mechanisms that lead to positive outcomes for mentees. Our provisional theory of change assumes that if the quality of teaching improves, then positive pupil outcomes will be achieved. The relationship between teacher effectiveness and positive pupil outcomes is a separate causal pathway and is evidenced in other literature (see, for example: Barber and Mourshed, 2007; Jackson et al, 2014).

4.7 Modifiers

In this section, we present features that are related to how the mentoring relationship is enacted or to the associated mentoring programme, where we found empirical or theoretical justification that such features have the potential to enhance or diminish positive outcomes for mentees.

Modifiers associated with how the mentoring relationship is enacted

The presence of the following features has been shown to enhance the positive effects of mentoring:

Box 5: Modifiers related to how mentoring is enacted, which may enhance positive effects

- Mentor focuses and builds on mentee's existing strengths
- Mentoring includes cognitive modelling
- Mentoring is non-judgemental (teacher evaluation and formal or summative assessment not carried out by mentor)
- Mentor is attuned to the effects of issues of equality, diversity and inclusion

While some models and frameworks, such as strength-based mentoring and solution-focused coaching, place building on mentees' strengths at the centre of the model or framework, there is also wider justification from the literature that building on mentees' strengths supports the achievement of positive outcomes.

We have already recognised the importance of modelling in general as a potential characteristic of the active ingredient 'mentor facilitates mentee's learning'. Cognitive modelling, which includes explicit discussion, deliberation and critique of what is being modelled, has been drawn out here separately, as it was found to be the only significant modifier of effect in Mok and Staub's (2021) mentoring and coaching meta-analysis.

The positive modifying effect of non-judgemental and non-evaluative mentoring was justified empirically and/or theoretically across several studies. It is also a key theme in the wider mentoring and coaching literature (e.g. Bradbury and Koballa, 2008; Hobson and Malderez, 2013; Lofthouse and Thomas, 2014; Ng, 2012). A non-judgemental approach relates to the nature of the interactions between the mentor and the mentee, as well as to structural processes, such as formal or summative assessment not being undertaken by the mentor.

Some models and frameworks (which tended to be aligned with the collaborative-transformational mentoring and coaching type) and empirical studies (e.g. Pullin s, 2021)

emphasised the potential positive modifying effect of mentoring relationships that acknowledge and address the '*issues of social, cultural challenge, adverse workplace climate, and teacher identity dilemmas*' (p44) that are encountered by some mentees from minority ethnic and other groups.

As we noted in [Section 4.5](#), we are unable to ascertain without further research whether the active ingredients, and the key characteristics of those ingredients that we identified, are irreducible active ingredients or modifiers of effects. Similarly, further research is required to confirm whether the modifiers we have set out in this section would more appropriately be classed as active ingredients or modifiers.

Modifiers associated with the mentoring programme

Empirical evidence and/or theoretical justification indicates that the presence of the following features enhances the positive effects of mentoring:

Box 6: Modifiers associated with the mentoring programme that may enhance positive effects

- Effective mentor training
- Appropriate mentor selection
- Decisions on the matching of mentors and mentees that take account of interpersonal compatibility and the potential for effective support– e.g. mentor in same field or subject
- Effective mentoring programme organisation, coordination, communication and support
- The mentoring programme is flexible to the needs of mentors and mentees, and responsive to those needs
- Periodic mentoring programme evaluation is undertaken and feeds into ongoing development of, and improvements to, the programme
- Mentoring programme design and implementation are attuned to issues of equality, diversity and inclusion
- Mentoring or coaching is part of a broader programme that supports the development of subject knowledge and pedagogy, where appropriate

The most frequently reported modifier related to the mentoring programme was effective mentor training, which was found to enhance positive outcomes in four of the empirical reviews. This finding is further substantiated in Hobson et al's [review of effective mentor training, education and development](#) (2020), which identified key features of effective mentor training (eg opportunities for practice and focus on communication skills) as well as reporting positive impacts on mentors, mentoring practices, mentees and organisations.

Most of the other features listed in Box 6 are activities often undertaken by a mentoring coordinator. Hobson et al's [review of the role of the mentoring coordinator](#) (2021) provides further substantiation that these features can enhance positive effects of mentoring, and provides examples from education and other contexts of how practices such as mentor selection, and mentor and mentee matching might be effectively implemented.

There was also evidence that where the mentoring is undertaken by the teacher's line manager, it may diminish potential positive effects (Clutterbuck, 2004; Hobson, 2016). In

addition, it is likely that if there is implementation failure – that is, that the mentoring programme is not implemented as intended – then potential positive effects will be diminished (Sims et al, 2021).

4.8 Contextual variables

A range of contextual variables that enhanced the positive effects of mentoring, relating to mentor characteristics, mentee characteristics, organisational characteristics and wider contextual factors, were empirically evidenced and/or theoretically justified across the sources in our review, and align with the wider mentoring and coaching literature (for example, see Hobson and Maxwell, 2020). The common themes are summarised in Boxes 7-10.

Box 7: Mentor characteristics that may enhance the positive effects of mentoring

- Motivated to undertake – and positive attitude towards – the mentor role
- Good communication and interpersonal skills
- Strong teaching skills and subject knowledge
- Progressive mindset – open to new ideas about learning, teaching and mentoring
- Committed to own learning, development and growth, as well as that of mentee

Box 8: Mentee characteristics that may enhance the positive effects of mentoring

- Willingness and motivation to be mentored and openness to new ideas and practices – aligning with Searby's (2014) concept of a 'mentoring mindset'
- Seeks challenging goals for their own development
- Good capacity for self-regulation – i.e. they are able to monitor and manage their energy states, emotions, thoughts and behaviours in ways that produce positive outcomes, such as learning and wellbeing
- Resilience when faced with difficulties

Box 9: Organisational characteristics that enhance the positive effects of mentoring

Culture and processes

- The organisation has an ethos of continuous improvement and is open to change
- Learning is supported and risk-taking and experimenting with practice is encouraged
- Effective approaches to sustainability and succession planning are in place, so that mentoring programmes are not disrupted by staff turnover

Leadership

- There is strong relational trust between leaders and staff
- Leaders visibly prioritise mentoring and provide the time and resources for mentors and mentees to participate in mentoring
- Leaders support mentees in applying learning from their engagement in mentoring
- Leaders provide recognition and reward for mentors

Box 10: Wider contextual factors

- There are productive collegial relationships between organisations involved in providing the mentoring programme (where appropriate)
- National policy and guidelines align with evidence on effective mentoring

4.9 Conclusion

In this section, we have developed a provisional theory of change (ToC) for mentoring and coaching that shows how active ingredients associated with the mentoring relationship may trigger causal mechanisms that lead to a range of positive outcomes for mentees. Features related to the mentoring relationship, mentoring programme and the wider context that might enhance or diminish positive effects have also been drawn out.

Further research is needed to fully test and refine this ToC. The NIoT's forthcoming research will go some way towards addressing this. Their forthcoming rapid evidence review will review the evidence on the aspects of this ToC over which programme providers can have the most influence, and which are the most relevant given the current policy and practice context in England, as well as their impact on teacher wellbeing, retention and practice, and pupil attainment.¹³ In addition, their current practice research looks at how teachers in England currently experience some aspects of this ToC (e.g. some of the active ingredients, modifiers and outcomes of mentoring).¹⁴

¹³ Published alongside this report: Stevenson, J., Kiss, Z., Jørgensen, C., Maxwell, B., Hobson, A.J. (2022). *Mentoring and coaching for trainee and early career teachers: Protocol for a rapid evidence review*, Report to NIoT, November 2022.

¹⁴ Published alongside this report: Allen, B., Ford, I., Wespieser, K. (2022). *Mentoring and coaching for trainee and early career teachers. Current practice survey*, Report to NIoT, November 2022.

5. Conclusions

5.1 Introduction

This conceptual review of mentoring and coaching will inform further research as well as offering useful insights for providers of mentoring programmes, mentors, mentees and school and other leaders in the education sector. The study has made an important contribution in drawing together a conceptual framework for mentoring and coaching – by offering a common definition for mentoring and coaching, a typology of mentoring and coaching types and a provisional theory of change.

5.2 Key findings

Definitions of mentoring and coaching

We have argued that, for a number of reasons, attempts to differentiate between mentoring and coaching are unproductive. Instead, we proposed an overarching definition of mentoring and coaching, as *facilitative or helping relationships intended to achieve some type of change, learning, and/or enhanced individual and/or organisational effectiveness* (adapted from Smith et al 2009, p147).

Mentoring and coaching types

We have also proposed a typology for mentoring and coaching, comprising three generalised mentoring and coaching types and their associated characteristics: hierarchical-transmission, nonevaluative-developmental, and collaborative-transformative mentoring and coaching. We do not advocate that any mentoring and coaching type is superior to the others – the evidence is inconclusive, and it is likely that different models, frameworks and approaches may be more or less appropriate for facilitating different types of outcomes, in different contexts, and/or for mentees or coachees at different career stages.

A provisional mentoring and coaching theory of change

We have also developed a provisional theory of change for mentoring and coaching based on empirical and theoretical justifications, which includes the following elements:

- **Outcomes:** We have drawn out a range of positive potential outcomes that may be achieved for mentees, mentors, pupils and organisations. The most frequent justified outcomes for mentees were improved practice and enhanced professional learning and development.
- **Active ingredients:** More tentatively, we have identified the following as potential active ingredients that trigger causal mechanisms for mentoring:
 - Sustained productive mentor-mentee relationships
 - Establishment of mentee goals to provide a key focus for the mentoring relationship
 - Facilitation of mentees' learning
 - Provision of emotional and psychosocial support.

- **Mechanisms:** Although we have provided some insights into the potential causal mechanisms and how they are discussed in the literature, it has been beyond the scope of this review to reach any definitive conclusions on this.
- **Modifiers:** We have also extracted a provisional list of features associated with the enactment of mentoring within the mentoring relationship, and with mentoring and coaching programmes, which may enhance the positive impacts of mentoring. The provision of effective mentor training was the most frequently found modifier of positive affect associated with mentoring and coaching programmes in the empirical evidence reviewed.
- **Contextual factors:** The provisional theory of change also takes account of the contextual variables that may enhance or diminish the positive impacts of mentoring. These include mentee and mentor characteristics, organisational characteristics and wider contextual variables. The literature reviewed aligns with the wider mentoring and coaching literature, indicating that positive outcomes are more likely to be achieved when schools have a culture of continuous improvement, are open to change, and support teachers in experimenting with their practices. Also mirroring the wider literature, we found that mentoring and coaching were more likely to be effective when school leaders visibly supported mentoring and made time and resources available for mentors and mentees.

5.3 Limitations

There is much complexity in seeking to produce definitive answers on the nature of effective mentoring and coaching. In addition, there were inevitably limitations to this study. In particular:

- This was a small-scale, time-bound study that was intended to inform further research. While the research team has drawn together and analysed a range of key literature sources, this was not a systematic review, so it is not comprehensive and may have omitted valuable sources. The inclusion of a wider range of sources may have revealed additional potentially important findings.
- It is important to note that some aspects and outcomes of mentoring and coaching may be important but are not easily measurable, so the absence of evidence in the literature should not be considered as an absence of effect.
- Our interpretations of some authors' meanings may not be fully accurate – for example where we have read some, but not all of their work, or where we have summarised their work using categories, such as 'active ingredients' and 'modifiers', that they did not use.

We also acknowledge that all members of the research team have at times advocated particular approaches to mentoring. However, we have sought to adopt a dispassionate and open-minded approach to this study, and did not intend to suggest, for example, that any mentoring or coaching model, framework or approach is superior to any other.

5.4 Further research

This conceptual review is the first stage of a four-stage NIoT project on mentoring and coaching trainee and early career teachers project. This project aims:

1. To identify what is promising and where there are gaps in the evidence, in order to inform the commissioning of new research.
2. To develop a set of recommendations on effective practice for schools and providers involved in delivering the ECF and ITT Core Content Framework.

The findings of this study have informed and will inform the later stages of research in the following ways:

- **Current practice survey:** Our definition of mentoring was provided to survey respondents, and our theory of change informed some questions (e.g. on mentoring activities and outcomes). The findings are published alongside this report.¹⁵
- **Rapid evidence review:** Our review, including our original mentoring types and our theory of change, has informed the scope of this study. The peer reviewed study plan and rationale for decisions made is published alongside this report.¹⁶
- **Recommendations:** In consultation with its expert panel, the NIoT will take into account the findings of this review in developing its recommendations for providers, schools and policy-makers.

We also anticipate that the current practice survey and rapid evidence review will produce findings to enable further refinement of the mentoring and coaching theory of change proposed in this study. We also hope that this conceptual review will provide a basis for further research beyond the current NIoT project. Such future research may seek:

- To develop deeper understanding of active ingredients and the mechanisms that they trigger, including distinguishing active ingredients from modifiers. A more enhanced understanding of active ingredients would enable mentors, mentees and providers of mentoring and coaching programmes to prioritise these irreducible features of the enactment of mentoring and coaching relationships. A better understanding of mechanisms would support the identification of which active ingredients are essential for different types of mentee outcomes.
- To ascertain which mentoring and coaching types, models, frameworks or approaches are best suited to facilitating short- and longer-term mentee outcomes, and whether this varies according to a teacher's career stage. Research in this area could involve the development and testing of a specific theory of change for each of the three generalised mentoring and coaching types presented in this report.
- Explore how mentoring and coaching lead to positive outcomes for mentors, schools and other educational settings.

¹⁵ Published alongside this report: Allen, B., Ford, I., Wespieser, K. (2022). *Mentoring and coaching for trainee and early career teachers. Current practice survey*, Report to NIoT, November 2022.

¹⁶ Published alongside this report: Stevenson, J., Kiss, Z., Jørgensen, C., Maxwell, B., Hobson, A.J. (2022). *Mentoring and coaching for trainee and early career teachers: Protocol for a rapid evidence review*, Report to NIoT, November 2022.

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This reference list includes all the sources that informed our critical summaries, as well as the wider literature cited in this report.

Sources marked with * were empirical reviews included in our study; sources marked with ** informed our mentoring and coaching models and frameworks critical summaries. To aid readability of the report, not all of these sources were cited in the main text.

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Appendix 1: NIoT mentoring and coaching project acknowledgements

Project team

- Prof Emerita Bronwen Maxwell (Independent Consultant and Sheffield Hallam University) – delivering the conceptual review and providing substantive expertise for the other stages
- Prof Andrew Hobson (University of Brighton) – delivering the conceptual review and providing substantive expertise for the other stages
- Catherine Manning (Education & Training Foundation) – delivering the conceptual review
- Prof Becky Allen (Teacher Tapp and University of Brighton) – delivering the current practice research and providing advice for the other stages
- Ian Ford (Teacher Tapp) – delivering the current practice research
- Karen Wespieser – delivering the current practice research
- Jennifer Stevenson (Independent) – synthesis methods expert, leading the rapid evidence review and providing advice on the other stages
- Dr Clara Jørgensen (University of Birmingham – qualitative synthesis expert, reviewing implementation and process studies as part of the rapid evidence review
- Zsolt Kiss (ZK Analytics) – meta-analysis expert for the rapid evidence review
- A team of research assistants from Durham University’s Teaching and Learning Toolkit team – coding studies for the rapid evidence review
- Camilla Nevill (National Institute of Teaching) – commissioning lead, overall project design and management

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- Prof Tanya Ovenden-Hope (Plymouth Marjon University)
- Natasha Raheem (Dixons Academies Trust)
- Cat Scutt, MBE (Chartered College of Teaching)
- Dr Sam Sims (Institute of Education, University College London)
- Prof Sam Twiselton, OBE (Sheffield Hallam University)

Peer reviewers

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- Dr Linda Jane Searby (University of Florida)
- Prof Sam Twiselton OBE (Sheffield Hallam University)

Appendix 2: Methodology

A2.1 Review sources

This conceptual review included a critical examination of:

- 19 empirical reviews (quantitative, qualitative and mixed methods), which provided evidence on the impacts and outcomes of mentoring – comprising 18 peer-reviewed academic journal articles and one peer-reviewed report, all of which are denoted with a single asterisk in the reference list
- 48 sources (denoted with a double asterisk in the reference list), the vast majority of which were articles in academic journals, discussing – and, in some cases, testing – the effectiveness of 18 mentoring models and frameworks (listed in [Appendix 3](#)).

The selection of particular models or frameworks, the specific accounts of these and the empirical reviews for inclusion were informed by our prior knowledge of the field, recommendations from members of the study expert panel ([Appendix 1](#)), and some searches of educational databases (e.g. Google Scholar) and key journals (eg *International Journal of Mentoring and Coaching in Education*, and *Mentoring and Tutoring: Partnership in Learning*).

A2.2 Methods

A critical-summary recording template ([Appendix 4](#)) for each empirical review and each model or framework was completed. Each summary included (where the information was provided by the authors):

- The authors' definition of mentoring and/or coaching
- Key features of the models or frameworks that were being discussed
- Quantitative, qualitative or mixed-method evidence of positive and negative outcomes
- Any underpinning rationales, explanations, theories of action or change that illuminated how deploying mentoring models, frameworks, key principles or specific approaches were considered to lead to the desired outcomes.

Findings presented in [Section 2](#), including our proposed overarching definition of mentoring and coaching, were drawn from reviewing definitions across the critical summaries, and were also informed by our knowledge of wider mentoring and coaching literature.

To inform our findings on mentoring and coaching models and frameworks ([Section 3](#)) and our provisional theory of change ([Section 4](#)), the first stage of our analysis was to summarise the data in the critical summaries. To do this we deployed three Excel workbooks, one each for:

1. Key features of models and frameworks
2. Positive and negative outcomes of mentoring, evidenced empirically¹⁷ or justified theoretically

¹⁷ As noted above, empirical evidence was drawn from quantitative, qualitative and mixed-methods studies. Judgements were not made about causal inference.

3. Other potential components of a mentoring and coaching theory of change – active ingredients, causal mechanisms, modifiers of potential impact and contextual variables.¹⁸

We populated the key features of models and frameworks and outcomes workbooks with codes, prior to undertaking the coding. These codes were informed by our reading of the critical summaries, and by our wider knowledge of the mentoring and coaching literature. A small number of further codes were added during the coding process, when it became apparent that additional themes were emerging across a number of the critical summaries. A simple numerical system was used to code each critical summary. For example, in the outcomes workbook, for each critical summary, evidence of positive impact on a specific outcome (e.g. improved practice) was coded 1, evidence of negative impact coded 2, and where no evidence was mentioned, it was coded 3. Any additional information not adequately covered by the codes was recorded as open text. Where appropriate, simple tallies were undertaken to provide an indication of the prevalence of common themes. This, of course, takes account of neither the strength nor the robustness of the empirical and theoretical justifications presented in the sources.

The codes in the other components of the theory of change (ToC) workbook were generated inductively through an iterative process during the coding process. That is, the research team began by closely reading the critical summaries and recording all potential codes for each ToC component evident in the reviews. These codes were then reviewed by the team, similar codes were merged, and appropriate code descriptors produced. A further cycle of coding was undertaken, followed again by an iterative process to produce the final coding structure. As with the first two workbooks, a simple numerical system, with additional information recorded as open text, was also used during the ToC coding process.

Stage two of the analysis underpinned our findings on mentoring and coaching models and frameworks. This began with consideration of their similarities and distinguishing features evident in the workbooks, and the use of the coded data to explore potential generalised types of mentoring and coaching. This was followed by close reading of the empirical review and models and frameworks critical summaries and some of the original sources, using an approach that drew on Glasser and Strauss's (1967) method of constant comparison. This supported the identification and qualitative verification of the three generalised types of mentoring and coaching presented in [Section 3](#).

Stage three of the analysis process led to the development of our provisional ToC ([Section 4](#)). Informed by the themes and trends in the outcomes and other ToC components workbooks, we undertook an iterative process of revisiting all critical summaries and, where appropriate, original sources, to gather deeper insights into each theme and potential relationships between components.

¹⁸ Our analysis for this third aspect was guided by commonly used approaches to developing theories of change, as set out in the *EEF Implementation and Process Evaluation Guidance* (EEF, 2022). We provide definitions of the concepts adopted to construct a provisional mentoring theory of change in [Section 4.2](#).

Appendix 3: Mentoring and coaching models and frameworks included in the review

Model or framework	Sources accessed for the conceptual review (full references can be found in the reference list)
Adaptive mentorship	Ralph and Walker (2010; 2013 and 2014) Salm and Mulholland (2015)
Clear mentoring	Lejonberg and Tiplic (2016)
Compassionate coaching	Boyatzis, Smith and Beveridge (2013) Boyatzis, Smith, and Blaize (2006)
Constructivist mentoring	Hudson (2004)
Contextual coaching	Hollweck and Lofthouse, R.M. (2021) Valentine (2019)
Developmental mentoring	Clutterbuck (2004) Manning (2018)
Dialogical mentoring and coaching	Bokenko and Gantt (2000) Haneda, Teemant and Sherman (2017) Hinojosa (2022) Nahmad-Williams and Taylor (2015)
Educative mentoring	Feiman-Nemser (1998; 2001) Langdon et al (2019)
GROW	Grant (2011) Whitmore (2009)
Humanistic mentoring	Norman and Ganser (2004) Varney (2009)
Instructional coaching	Desimone and Pak (2017) Farndon (no date; 2019) Goodrich (2021) McDonald (2017) White et al (2015)
ON-SIDE mentoring	Hobson (2016; 2017; 2020; 2021; 2022)

Preservice mentoring framework	Ambrosetti, Knight and Dekkers (2014)
Relational mentoring	Fletcher and Ragins (2007) Hayes (2020) Ragins and Verbos (2007)
Social-justice mentoring	Duckworth and Maxwell (2015) Maxwell and Duckworth (2020)
Solution-focused coaching	Grant (2012) Grant and Gerrard (2020) O'Connell and Palmer (2018) Selwyn and Grant (2019)
Strength-based mentoring	Ye He (2009)
Transformational mentoring	Butler, Whiteman and Crow (2013) Kochan et al (2015) Wang and Odell (2007)

Appendix 4: Critical summary template

Bibliographic reference	
Sector – if appropriate	E.g. primary, secondary education
Professional group	E.g. trainee and/or early career teachers
Geographical context of the study	
Name of coaching or mentoring programme – if appropriate	
Type and scale of study, including roles of participants	E.g. type of review, empirical study (e.g. qualitative, quantitative, mixed methods) 100 survey responses from trainee teachers, 50 from mentors. Comment on robustness (e.g. comparison group)
Definition of mentoring and/or coaching adopted by author	
Name of models/theories/framework/approaches to mentoring or coaching reviewed or adopted – if appropriate	
Key features of any models, approaches etc listed above – including of mentoring or coaching role	E.g. <ul style="list-style-type: none"> • Individualised / tailored / personalised • Directive vs non-directive • Evaluative vs non-evaluative/non-judgemental • Collaborative
Evidenced positive impacts of mentoring and/or coaching List impacts (where there is some evidence for them), with brief detail of nature of impact	<p>FOR MENTEES / COACHEES</p> <ul style="list-style-type: none"> • Professional learning and development • Teacher effectiveness • Teacher retention • Teacher wellbeing • Workload management • Professional autonomy /agency • Other <p>FOR PUPILS</p> <ul style="list-style-type: none"> • Engagement • Motivation

	<ul style="list-style-type: none"> • Attainment • Wellbeing • Other <p>FOR MENTORS / COACHES</p> <ul style="list-style-type: none"> • List (less detail required) <p>FOR ORGANISATIONS</p> <ul style="list-style-type: none"> • List (less detail required) <p>OTHER</p> <ul style="list-style-type: none"> • List (less detail required)
<p>Theory of change or action</p> <p>ie explanations of how the positive impacts come about, and the key features that the authors associate with positive impacts</p>	<p>E.g.</p> <ul style="list-style-type: none"> • Professional learning theories • Self-efficacy • Self-determination theory • Theories created by authors from empirical findings <p>Features that authors associate with positive impacts potentially include those related to the enactment of mentoring or coaching and the mentoring or coaching programme. E.g.:</p> <ul style="list-style-type: none"> • Individualised support • Non-directive or non-judgemental approach • Focus on specific skills associated with mentees' practice • Training for mentors • Training for mentees • Effective mentor selection and pairing
<p>Evidenced negative impacts of mentoring and/or coaching and/or evidence that intended impacts not achieved – only record these where there is evidenced/feasible explanations for negative or no impacts</p>	<p>FOR MENTEES / COACHEES</p> <ul style="list-style-type: none"> • Professional learning and development • Teacher effectiveness • Teacher wellbeing (illbeing) • Teacher retention (attrition) • Professional autonomy / agency (lack of / stunted) • Other <p>FOR PUPILS</p> <ul style="list-style-type: none"> • Engagement • Motivation • Attainment • Wellbeing

	<ul style="list-style-type: none"> • Other <p>FOR MENTORS / COACHES</p> <ul style="list-style-type: none"> • List (less detail required) <p>FOR ORGANISATIONS</p> <ul style="list-style-type: none"> • List (less detail required) <p>OTHER</p> <ul style="list-style-type: none"> • List (less detail required)
Explanations for negative or no impact, as given by the author – i.e. the theory of change that was found to be operating in practice	<p>Very briefly summarise the explanation given by the author for negative or no impact. If possible, also note whether the author attributes it to theory failure, implementation failure or research failure (or a combination of these)</p> <ul style="list-style-type: none"> • Theory failure occurs when the intended theory of change has flaws. • Implementation failure occurs when the mentoring or coaching is not implemented as intended in the programme design. • Research failure occurs when there are flaws or limitations in the measurement of intended impacts.
Moderating/ contextual variables – where a clear link is made by author between operation of variable and impacts achieved or impeded	<p>List variables and whether its presence is evidenced as enhancing positive impacts and/or its absence is evidenced as impeding the achievement of positive impacts and/or leads to negative impacts. E.g.:</p> <ul style="list-style-type: none"> • Prior experiences and dispositions of mentors and mentees • Institutional support • Other [specify]
Anything else relevant to project aims and not covered above	
Follow-up sources	Add any references to key literature of central relevance to the conceptual aims, and note why relevant.