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Curriculum in early childhood education: critical questions about content, coherence, and control

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ABSTRACT

A continuing struggle over curriculum in early childhood education is evident in contemporary research and debate at national and international levels. This reflects the dominant influence of developmental psychology in international discourses, and in policy frameworks that determine approaches to curriculum, pedagogy, and assessment. Focusing on early childhood education, we argue that this struggle generates critical questions about three significant themes within curriculum theory: content, coherence, and control. We outline two positions from which these themes can be understood: Developmental and Educational Psychology and contemporary policy frameworks. We argue that within and between these positions, curriculum content, coherence, and control are viewed in different and sometimes oppositional ways. Following this analysis, we propose that a focus on 'working theories' as a third position offers possibilities for addressing some of these continuing struggles, by exploring different implications for how content, coherence, and control might be understood. We conclude that asking critical questions of curriculum in early childhood education is a necessary endeavour to develop alternative theoretical frameworks for understanding the ways in which curriculum can be considered alongside pedagogy, assessment, play, and learning.

KEYWORDS

Early childhood education; curriculum; developmental psychology; policy; working theories; play; pedagogy; school readiness

Introduction

The continuing struggle over curriculum theory and practice in early childhood education (ECE) is reflected in contemporary research and debate across international contexts (File, Mueller, & Wisneski, 2012; Lenz Taguchi, 2010). Although this struggle has historically focused on different ideologies, theories, and approaches, more recent influences have emanated from policy discourses that operate at national and supranational levels (Council of the European Union, 2011; Organisation for Economic Co-operation and Development [OECD], 2006). This, we suggest, brings into focus critical questions about curriculum content, coherence, and control. Curriculum theory in ECE remains underdeveloped, partly because of the dominant theoretical influence of Developmental and

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Educational Psychology, and subsequent interpretations of child development theory. Traditional emphases on the processes of learning through discovery, exploration, and play were associated with *laissez-faire* approaches, with less attention to disciplinary forms of knowledge (i.e. subjects) around which school curricula are typically constructed and outcomes articulated. The nature and place of curriculum content in ECE have remained contentious, specifically the extent to which young children can and should engage with subject matter, concepts, and skills. Furthermore, learning processes have been viewed as more important than either content or outcomes (Wood, 2014) with the result that curriculum theory has been the poor relation to child development and pedagogical theories. In contrast, within contemporary policy frameworks, the ECE curriculum document has become the site through which content, coherence, and control are being articulated, as a means of aligning preschool and compulsory education policy, and ensuring that children achieve educational and school readiness goals, which, in turn, contribute towards longer term economic and sociopolitical goals.

In this paper, we propose two positions from which curriculum content, coherence, and control can be explored and understood: Position 1 encompasses the influence of Developmental and Educational Psychology within ECE, and Position 2 focuses on how contemporary policy frameworks have selected key concepts from these disciplines. These two positions embody contrasting ontological assumptions and discourses. Each position takes a differing view of what curriculum comprises in ECE, what informs curriculum decision-making, and what – and whose – forms of knowledge or content are valued. Both positions have become enmeshed in global trends towards investment in ECE systems, where theories of human development have been aligned with discourses of human capital (Moss, 2013; Penn, 2010). We argue that the concepts of curriculum content, coherence, and control are viewed in different ways within and between these two positions, and illustrate this argument with reference to two ECE policy frameworks – the Early Years Foundation Stage (EYFS) in England and *Te Whāriki* in New Zealand. Following this analysis, we propose a third position – that a focus on children's working theories (Hedges, 2011, 2012, 2014; Hedges & Cooper, 2014; Hedges & Cullen, 2012; Hedges & Jones, 2012; Hill, 2015; Lovatt & Hedges, 2015; New Zealand Ministry of Education [MoE], 1996) offers possible alternatives for engaging in complicated conversations, asking critical questions, and informing curriculum theory and practice in ECE.

Through the first two positions, we trace the development of curriculum theory and practice in ECE, some of the main debates about how curricula have been framed and understood, and the influence of policy frameworks. These are not discrete but intersecting positions, where the intersections reveal what is taken forward or left out as each new position has developed over time. We draw on the work of Joseph (2011) and Pinar (2011, 2012) to understand curriculum as complicated conversations, as complex questions, and as dynamic working practices. Joseph (2011) identifies contrasting curriculum orientations or cultures that comprise:

visions and practice – including assumptions about the needs and nature of learners, the role of teachers and instruction, norms about subject matter, learning environments, curriculum planning and evaluation. (p. 20)

Similarly Pinar (2011, 2012) presents a complex understanding of curriculum as drawing on multiple narratives and perspectives – personal, historical, social, cultural,

postcolonial, political, and ethical. As a result, many people – children, families, professionals, and policy-makers – are involved in making, living, and experiencing curriculum. Dillon (2009) highlights the importance of asking fundamental questions about the nature, elements, milieu, aims, and practice of curriculum, and understanding the fundamental tensions in such questions. Accordingly, we raise questions about what happens when the concepts of content, control, and coherence are used to interrogate curriculum in theory and policy in ECE. We incorporate ways of understanding children, learning, pedagogy, assessment, and play from these two contrasting positions. From this analysis we show how ECE curricula have moved from *laissez-faire* approaches towards control discourses that have previously applied to compulsory schooling, so that ECE must justify economic investment by proving its effectiveness, particularly in securing ‘school readiness’ (Brown, 2010; Department for Education [DfE], 2011; Early Childhood Education Taskforce, 2011; OECD, 2006).

At a surface level, curriculum content is commonly viewed as the subject matter knowledge, skills, dispositions, understanding, and values that constitute a programme of study. Coherence is commonly understood as the ways in which content is organised systematically in stages or sequences to ensure progression in learning. In ECE, coherence includes alignment with other structural arrangements such as play, pedagogical approaches, assessment practices, materials and resources, and home–preschool–community relationships and partnerships. Control involves a range of governmental practices that operate in compulsory schooling (Oates, 2010), and have transferred into ECE policy frameworks (Dahlberg, Moss, & Pence, 2013). These practices include inspection, evaluation, and accountability arrangements; teacher/practitioner education/training and qualifications at pre- and in-service levels; effectiveness measures, including teacher assessment and child assessment, standards and quality criteria; institutional governance and funding; and measures of performance and outcomes (Oates, 2010).

At a more complex level, content, coherence, and control coexist in many ways because they carry historical and sociopolitical influences, values, cultural beliefs, and aspirations. These are evidenced in different ECE curricula formulations across international contexts (Brooker, Blaise, & Edwards, 2014), with wide variations in local autonomy, adaptation, and interpretation (Nuttall, 2013), encompassing diverse cultural, ethical, philosophical, and political discourses (File et al., 2012; Joseph, 2011). We trace and problematise content, coherence, and control in light of these complexities by outlining the two positions. We then proffer a new position that highlights children’s working theories as a primary focus for ECE curriculum considerations.

Position 1: Developmental and Educational Psychology

ECE has always drawn on an eclectic range of ideologies and theories to inform curriculum (Brooker et al., 2014). Developmental Psychology became established as the dominant discourse, and the means for providing scientific evidence for what had previously been observed intuitively – namely what and how development occurs, how children learn, and how their experiences and activities lead to more developed or mature forms of cognition, behaviour, and competence. Drawing on predominantly positivist ontology and epistemology, Developmental Psychology provides explanations of a variety of phenomena: biological processes, the mechanisms for learning, social and emotional adaptation,

and explanations for individual differences. The various branches of psychology (such as cognitive, developmental, evolutionary, behavioural, psychodynamic, educational, cultural) utilise a range of methods, deriving from positivist methodological orientations (observation, experimental, naturalistic, interventions, and randomised control trials). Developmental research has produced a variety of rating scales, measures, stages, categories, and norms through which early learning and development have come to be understood. Leading a modernist discourse, this scientific orientation produced the familiar frameworks of 'ages and stages', based on normative ways of understanding and positioning children.

The international influence of these theories can be traced in many ECE curriculum frameworks, combining a body of knowledge that includes ways of understanding children's learning and development, and key principles underlying how children should be educated (Barbarin & Wasik, 2009). Some of these principles continue to have contemporary resonance, notably that:

- ECE is child-centred – exploration, discovery, and inquiry are drivers for learning and development;
- children learn through play and freely chosen activities, enabling them to develop independence, control, and autonomy;
- curriculum includes all the activities and experiences in the setting, including the ethos, agreed rules, and behaviours;
- practitioners identify children's interests and needs, and plan the curriculum in emergent and responsive ways;
- practitioners may plan group activities to introduce specific curriculum content.

Although these principles retain currency, they have been associated with *laissez-faire* approaches, whereby practitioners provide opportunities for free play, and observe children's natural development but do not provide significant adult intervention, or engage in curriculum design as planned and intentional teaching of content. Subsequently, child development theories were used to create an epistemological counter-narrative to *laissez-faire* approaches, because developmental research conveyed the scientific credibility that appealed to policy-makers and curriculum designers. The twentieth century saw increasing state interventions in social care, health, and education, which required a scientific rationale to provide economic justifications for government expenditure. Thus Developmental Psychology aligned with Educational Psychology to inform how curriculum content might be arranged in progressive sequences via guidelines and pedagogical structures. These structures, in turn, framed the means by which children's progress and achievements could be understood and assessed. Subsequently, indicators of typical/normal development have been inscribed in various policy frameworks as developmental truths, and are specifically framed as desired curriculum goals, standards, or outcomes (e.g. in the EYFS in England, Department for Education, 2012).

Central to the scientific discourse has been a shift from understanding play as the naturalistic and free activity of childhood towards providing evidence of its claimed benefits (Smith, 2010). Play has been considered as *the way*, and often *the best way* in which children learn, but with less specification of how these claims related to curriculum content, coherence, and control. Psychological approaches to researching play subsequently filled this gap, produced justifications for its value and relevance in children's lives, and specified some of the pedagogical conditions under which developmental and educational

benefits can be realised (Reifel, 2014; Saracho, 2012; van Oers, 2012). There is now substantial evidence that play is a process that promotes learning and development, and that learning and development can be identified in play that is freely chosen by children, and structured or guided by adults (Roopnarine & Johnson, 2013; Van Hoorn, Nourot, Scales, & Alward, 2011; Wood, 2013a). Accordingly, as play has been brought into discourses of curriculum control, a dual focus emerged that would, theoretically, enable practitioners to respond coherently to children's developmental needs, choices, and interests *and* to introduce content to achieve curriculum goals. The dual focus comprises:

- children's freely chosen play and activities can be the sources for curriculum planning, informed by their interests and inquiries; AND
- curriculum goals can be a source for planning 'educational play', that is, learning activities that develop and extend children's interests.

In spite of the currency of the psychological discourses in ECE, many tensions remain around concepts of play-based learning, curriculum, and pedagogy (Wood, 2013b), reflecting debates about the role of practitioners (Fleer, 2015), the perspectives of parents (O'Gorman & Ailwood, 2012), and the efficacy of play as a means to achieving curriculum goals and ensuring school readiness (Bodrova, 2008). Authentic or 'truly free' play remains freely chosen, initiated, and directed by children, so does not fit easily into the control implied in 'educational play' because it is not clear how curriculum content can be learned, or how coherence can be assured during play. In contemporary outcomes-driven policy design, demands for evidence-based and evidence-informed practice mean that adults' planning and purposes may be privileged over children's. From an educational perspective, interpretations of play and learning are inevitably pedagogical, in that perceived outcomes must be framed in ways that align with curriculum goals, whether these are prescriptive, indicative, or aspirational.

Without clarity of understanding and articulating the links between play, learning, and pedagogy, ECE curriculum has been subject to critique, and open to the levels of control that are embedded in many contemporary policy frameworks. As ECE has become the site for government-funded universal provision in order to address inequities in educational achievement later in life, the focus has shifted towards more instrumental questions, such as how knowledge can be arranged in a logical structure as curriculum content, how coherence can be achieved through arrangements such as pedagogy and assessment practices, and what forms of control are needed to address accountability and align preschool and school curricula. We now move to considering these debates in Position 2.

Position 2: contemporary policy frameworks

In Position 2, the concepts of content, control, and coherence take centre stage, as ECE is being framed by the policy technologies (as described by Oates, 2010) within compulsory schooling. These policy technologies also reveal how governments are looking to ECE to solve wider social problems, through universal provision and cost-effective interventions. Of critical interest here are questions about which ideas about Developmental and Educational Psychology from Position 1 have been transferred and translated into different curricula frameworks in Position 2. There is sustained influence from these theories, alongside contemporary sociocultural theories that

acknowledge the role of history, culture, and context in children's development and learning, as two main informants to ECE policy and practice. This legacy has produced varying ways of conceptualising curriculum, pedagogy, and assessment as exemplified in *Te Whāriki* in New Zealand (Hedges & Cullen, 2012; MoE, 1996), and the EYFS in England (DfE, 2012; Wood, 2013b).

To inform a revision of the English Foundation Stage, the Early Years Learning and Development Review (Evangelou, Sylva, Kyriacou, Wild, & Glenny, 2009) was commissioned by the Department for Education. The review identified three models of development: constructivist, interactionist, and neuropsychological, with an emphasis on Vygotskian sociocultural theories in the interactionist tradition (Evangelou et al., 2009). Therefore, the current influence of sociocultural and ecological theories is acknowledged, but with an emphasis on the ways in which the social context impacts on individual learning and development. The social context position has long been critiqued as not fully encompassing the ways in which cultural beliefs and practices form the milieu of children's development (Rogoff, 1998). Evangelou et al. (2009) do caution against a linear model of progression because of its tendency to 'simplify and ... homogenise development' (p. 29), and acknowledge that cultural contexts can influence learning trajectories, including the nature of the engagement between the child and the adult. However, policy-makers and curriculum developers were selective about the messages from this review. In spite of the explicit cautions about a linear model of progression, the EYFS reframed developmental indicators (how children typically develop) into curriculum goals (the learning outcomes children should achieve by age 5), within an instrumental policy emphasis on improving school readiness (DfE, 2012).

In contrast, in New Zealand, a bicultural, holistic curriculum document was created that highlights equity and cultural considerations (Nuttall, 2013). Developing *Te Whāriki* was a collective and supported endeavour within the early childhood community that took place beneath the radar of policy-makers (Te One, 2013). Furthermore, the ECE community has generated further iterations of curriculum, pedagogy, assessment, play, and learning through independent and government-funded research. Despite being an innovative curriculum, lauded internationally since its inception (Soler & Miller, 2003), *Te Whāriki* is not immune to wider global influences such as school readiness discourses. The current policy assumption in England and New Zealand appears to be that the early introduction of formal approaches to teaching is desirable in order for children to learn in ways that are expected and demanded in compulsory schooling. Effectively, the independent and autonomous child is the self-governing child, the 'school ready' child and, therefore, the tamed child. Hence, recent strategic policy directions in New Zealand, such as 'strengthening early childhood outcomes' and 'continuity of early learning' across ECE and junior primary contexts (Mitchell et al., 2015; MoE, 2015), threaten being situated within school readiness discourses. Thus content and coherence risk being reframed as continuity, with increasing levels of control through top-down instrumental mechanisms to exert different policy requirements.

We argue that relying on developmental theories to inform ECE policy creates a number of problems. From an ontological perspective, guiding development is not the same as guiding learning, and, from a sociocultural perspective, development does not precede learning; the opposite is emphasised – that learning leads development. Moreover, development in the cognitive, behavioural, physical, and emotional domains does not

necessarily encompass the conceptual structures, tools of intellectual inquiry, and distinctive forms of knowledge embedded in subject disciplines, which form the content of curriculum, and therefore of children's learning. In short, as Hatch (2012) has argued:

Curriculum content, the substance of early childhood education, cannot logically be identified based on knowledge of child development theory: that is, figuring out what subject matter knowledge should be taught does not follow from understandings of what children are like at particular ages and stages. (p. 46)

Following Hatch, 'figuring out' what subject matter knowledge should be taught is the province of educational research, rather than developmental theory, where curriculum and pedagogical theory can come into the mix, and where school readiness can be understood in ways that take account of wider contextual, family, and individual diversities, as recommended by Brown (2010).

In spite of the reservations we identify, the persuasive discourses of child development and school readiness speak to policy-makers and policy interventions. Policy drivers circulate in supranational contexts via organisations such as the World Bank, OECD, and the United Nations International Children's Education Fund. Although ECE is seen as a right, as a positive benefit for children, families, and communities, as a developmental need, and as a means for learning, the underlying policy drivers determine that programmes must demonstrate returns on investment through positive outcomes that remain evident long-term. In analysing policy-centred versions of educational play, Wood (2013b) argues that these drivers have conflated domain-specific (social, emotional, cognitive, physical) and discipline-specific (e.g. literacy, numeracy) concepts in curriculum frameworks. This problem arises from the ways in which key theoretical informants have been interpreted and used, because many national policy frameworks combine domain-specific developmental indicators and discipline-specific learning outcomes, in ways that frame curriculum content. By these means, policy frameworks such as the EYFS (DfE, 2012) claim to produce coherence via quantifiable indicators of children's progress and achievements. These policy technologies incorporate the range of governmental practices that operate in compulsory schooling (Oates, 2010), and enable children to be assessed or measured against seemingly 'measurable' goals and outcomes, and against the ultimate goal of school readiness. However, against such instrumental goals, the fine-grained qualities and complex and dynamic nuances of children's learning may not be recognised, including their prior knowledge and ways of knowing. Thus there are different levels at which control mechanisms operate – via curriculum goals, pedagogical structures, and assessment arrangements.

If child development theory is not a sufficient grounding for curriculum content and coherence, questions then arise about what might be the main drivers for curriculum policy documents in ECE. Alongside increasing policy interventions, there has been a gradual introduction of curriculum goals that reflect both wider social pedagogic and citizenship goals, and the specific aspirations for learning and school readiness. Policy interventions can be seen as necessary and desirable as ECE curriculum frameworks become significant levers for change, particularly where goals for equity and equality are incorporated. However, tensions remain between the goals that are evident in children's interests and freely chosen activities, and the goals that are inscribed in policy frameworks as requirements and entitlements.

The ECE policy frameworks in England, New Zealand, and in many other countries thus raise questions about the compatibility of social pedagogic and academic goals, and the levels of control that are required for adults to achieve different types of goals where these are framed as curricular requirements and entitlements. Contemporary policy-making in ECE is, therefore, as much a case of finding the most effective approaches as finding the most cost-effective approaches. As a New Zealand Taskforce Report stated, the aims for policy-making are to 'develop new ideas on innovative, cost effective and evidence-based ways to support children's learning in early childhood and the first years of compulsory schooling' (Early Childhood Education Taskforce, 2011, p. 13). It is here that the long-standing claims about learning through play become subject to cultural interpretation and some policy revisionism, with the result that educational play or *eduplay* has become an instrumental means for delivering academic outcomes (Bodrova, 2008; Wood, 2013a). A counter-narrative against educational play comes from a commitment to freely chosen play (House, 2011), which is held as a defence against the dark arts of curriculum control in ECE. This counter-narrative speaks against policy interventions that promote formal 'top-down' methods, where ECE must fulfil school readiness goals, despite there being clear evidence that there is no long-term benefit from such approaches (Halpern, 2013).

Within these discursive landscapes of policy and governed practice, there are varied ways of framing curriculum content, coherence, and control. The degrees of control that are exerted then influence degrees of freedom and creativity, such that efforts at embracing other possibilities may represent a risk for practitioners in terms of how they will be evaluated, a risk for providers in how they will be judged against inspection or quality criteria, and a risk for children in terms of how they are positioned within assessment and testing regimes. Under conditions of tight control, the means of curriculum delivery via structured pedagogic approaches and assessment regimes may appear to be safer options. However, situated between these somewhat polarised points, the spaces for asking critical questions and having complex conversations about curricula that are responsive to children's ways of learning and knowing may then be narrowed. The contrasting argument is that some policy interventions are beneficial in a field that is characterised by uncertain funding, varied levels of quality, pay, and qualifications, and ongoing struggles to assert a professional identity (Nutbrown, 2012). From this perspective, policy frameworks also create the conditions under which practitioners and providers must attend to diversity and difference, to principles of equity and equality, and to differentiation for children with special or additional needs. These are the wider educational goals and purposes that reflect the values, ideals, and ethical commitments of societies, and that encompass personal development as well as academic, social, and civic responsibilities.

As the following section indicates, these debates are also reflected in critiques of ECE curricula that draw on post-structural and post-developmental theories but, as we argue, these views do not offer viable alternatives to the two positions outlined above.

Post-structural perspectives

Contemporary post-developmental and post-structural theories offer critical deconstruction of the psychological influences on policy frameworks and curricula, specifically how power circulates between people, and within and between systems. This critique identifies how child development theories have constructed normative discourses about how

children are understood and positioned (Cannella, 1997; Dahlberg et al., 2013). Developmental norms, standards, and stages are seen as being culturally deterministic and hegemonic (Blaise, 2010). Governing rationalities produce childhood subjectivities, in which developmental theories and dominant policy discourses are implicated. Educational play is also implicated in this critique where it is used and misused as a means for children to achieve curriculum goals through recommended or prescribed pedagogical structures, rather than through 'free play'. Despite the strong claims emerging from this critique, there is no uniformity in the resulting recommendations because post-structural researchers draw from a number of theoretical and philosophical perspectives (Blaise, 2014; Lenz Taguchi, 2010) and coherence or agreement cannot be assumed. There are differences, for example, in how curriculum is understood, the place of subjects in the curriculum, and the role of policy in determining curricula. Accordingly, there are different orientations towards content, coherence, and control.

For example, Sellers (2013) draws on the work of Deleuze and Guattari to understand children's complex relationships with curriculum. Sellers explores curriculum as milieus of being/becoming and argues that, rather than being subjugated by adults' control, children should be able to produce their own subjectivities as they demonstrate their own desires for curricular performativity. Sellers describes these processes as curriculum emerging from children's lived experiences as they express their own understanding of what matters for them, and why. Accordingly, issues of content, coherence, and control are understood through abstract concepts such as transcendence, arborescence, rhizomatic networks, emergence, immanence, tracings, and mappings. Sellers foregrounds post-structural and humanities-based perspectives as a critique and counter-narrative to the sociocultural theories that are foundational to *Te Whāriki*, (MoE, 1996). In a critical exploration of gender discourses and play, Blaise (2014) takes a more balanced perspective, and understands post-developmental theories as not denying children's development, but making room for other perspectives that can illuminate aspects of children's subjectivities, including the culturally situated learning experiences that children themselves create, as well as those that are offered by, or co-constructed with, adults.

As a feminist post-structural researcher, Ailwood (2010) cautions against trading one regulatory discourse for another, without critical examination of the claims to truth that have emerged from post-structural research. Ailwood's caution is apt because the fields that some post-structural writers aim to 'deterritorialise' are now arguably being re-territorialised, thereby running the risk of creating discourses and claims to truth that are just as totalising as the developmental and normative positions that are being contested. Ailwood questions whether children and practitioners are in a position to challenge stubborn and deeply embedded discourses about gender and power. We argue that this question can be extended to other genres of regulatory discourses, whether these come from within ECE, from dominant theoretical discourses, or from policy frameworks.

The perspectives taken by post-developmental and post-structural theorists challenge the structures around which curriculum content can be framed, and the pedagogical conditions under which children engage productively with different forms of knowledge. Moreover, abstract and complex ideas about emergence and immanence imply varying degrees of relativism regarding whose knowledge, and what forms of knowledge are valued. Hence any practical recommendations stray towards the *laissez-faire* pedagogical approaches (described in Position 1), where *freedom to learn* through self-directed activity

was interpreted as *freedom from* adult intervention, especially teaching content defined within curriculum 'subjects'.

Post-structural work does not aim to provide a practical curriculum theory in the sense that its main purposes are to provide a critique around which deconstruction can take place. Therefore, content, coherence, and control are not addressed, specifically in relation to how these concepts might coexist in ways that recognise the complex questions raised by Pinar (2011, 2012), Joseph (2011), and Dillon (2009). The post-structural perspectives proposed by Sellers and others reject a hierarchy or logical structure of knowledge, and of developmental norms, and the levels of control that are inscribed in many ECE policy frameworks. This raises a number of challenges for curriculum theorists and practitioners because working with either overly or loosely defined structures towards overly or loosely defined goals is equally problematic. Furthermore, a rejection of structure in relation to curriculum content and coherence may not serve children well, not least because lack of knowledge (especially in literacy and numeracy) is strongly implicated in negative social outcomes and trajectories for young people (Milner, 2010).

Summary

In Positions 1 and 2, we have outlined contrasting theoretical informants to curriculum in ECE, and have foregrounded a range of complex issues. How ECE curricula might be conceptualised continues to provoke debates: questions about curriculum have been foregrounded that have not been addressed by Developmental and Educational Psychology nor by post-structuralist critiques. Position 1 has emphasised complicated conversations and questions related to the long-standing influence of Developmental and Educational Psychology. Position 2 has identified that content, control, and coherence are important to policy-makers, but questions whether ECE frameworks are overly instrumental. These contrasting positions have different implications for related matters of pedagogy, assessment, learning, and play. We argue that neither of these positions has provided a coherent framing for understanding and enacting curriculum in ways that enable practitioners to align both academic and social pedagogic goals. The tensions between Positions 1 and 2 have left practitioners uncertain about when, or how to provide both child-initiated and adult-led activities, and about ways to understand how children's activity choices are productive of learning. Furthermore, the deconstruction of curriculum from post-structural perspectives does not offer any alternative positions from which to consider content, coherence, and control.

We return now to the idea of complicated conversations about curriculum, in which complex questions can be explored in ways that incorporate attention to pedagogy, assessment, learning, and play. We propose that an ongoing challenge is to recognize the fine-grained qualities and complex nuances of children's learning. Accordingly, we explore this challenge by drawing on a substantial body of research on children's working theories as the source of new questions about, and possibilities for curriculum.

Position 3: children's working theories

In Position 3, we argue that a focus on learning as complex processes can help to resolve some of the tensions around critical questions of curriculum in ECE outlined

in the previous two positions. We raise questions about whether curriculum might be understood from children's perspectives, through the concept of *working theories*. This proposed conceptual framing retains the principles of valuing child-initiated play and curricular possibilities, whilst contesting normative developmental theories and school readiness discourses through illustrating the more dynamic and unpredictable nature of children's learning and appropriate curriculum considerations. A growing body of empirical work supports the framework around which working theories can be understood, and raises complicated questions about content, coherence, and control.

The concept of working theories is taken from *Te Whāriki*, the New Zealand ECE curriculum document (MoE, 1996). As holistic curriculum outcomes, these comprise 'a combination of knowledge about the world, skills and strategies, attitudes, and expectations' (MoE, 1996, p. 44). The concept was initially developed from Claxton's (1990) constructivist notions of mini theories as a means of explaining how humans construct and connect pieces of knowledge, and how these gradually become organized into increasingly coherent frameworks. Learning across the lifespan involves actively exploring, seeking, and developing knowledge in order to act on and within everyday worlds with increasing understanding and confidence. The term 'working', therefore, indicates that thinking (theories) and related ongoing knowledge construction are tentative, creative, unpredictable, and speculative, and open to continuous revision, development, and refinement. Within *Te Whāriki*, working theories are described as follows:

In early childhood, children are developing more elaborate and useful working theories about themselves and the people, places, and things in their lives. These working theories contain a combination of knowledge about the world, skills and strategies, attitudes, and expectations. Children develop working theories through observing, listening, doing, participating, discussing, and representing within the topics and activities provided in the programme. As children gain greater experience, knowledge, and skills, the theories they develop will become more widely applicable and have more connecting links between them. Working theories become increasingly useful for making sense of the world, for giving the child control over what happens, for problem solving, and for further learning. Many of these theories retain a magical and creative quality, and for many communities, theories about the world are infused with a spiritual dimension. (MoE 1996, p. 44)

The term working theories is also included in one of the goals for the strand of Exploration: '[children] develop working theories for making sense of the natural, social, physical, and material worlds' (p. 82), including 'theories about social relationships and social concepts, such as friendship, authority, and social rules and understandings', and 'working theories about the living world and how to care for it' (p. 90).

A first definition of working theory was offered two years after the advent of *Te Whāriki*: 'a unique system of ideas that is based on a person's experience and provides them with a hypothesis for understanding their world, interpreting their experience, and deciding what to think and how to behave. This system is in a constant state of development and change' (MoE, 1998, p. 90). Such a definition can be viewed as influenced by developmental discourses related to 'scientific hypotheses' and a somewhat individual, constructivist view of the world.

Elaboration of the conceptual basis for working theories has developed through research that has drawn on constructivist, cognitive psychological, sociocultural, and

complexity theories. Within a sociocultural dimension, Hedges and Jones (2012) utilise participatory learning theories and notions of inquiry to propose that working theories:

represent the tentative, evolving ideas and understandings formulated by children (and adults) as they participate in the life of their families, communities and cultures and engage with others to think, ponder, wonder and make sense of the world in order to participate more effectively within it. Working theories are the result of cognitive inquiry, developed as children theorise about the world and their experiences. They are also the means of further cognitive development, because children are able to use their existing ... understandings to create a framework for making sense of new experiences and ideas. (p. 36)

Working theories offer a way to incorporate social pedagogic and academic goals within the context of valuing children's play alongside the conversations, inquiries, and debates that occur within participatory learning experiences (Hedges & Cooper, 2014; Hedges & Cullen, 2012). Hedges and Cooper illustrate ways that the constituent components of working theories – knowledge about the world, skills and strategies, attitudes, and expectations – might be understood within complex views of learning and curriculum rather than as ways to identify and atomise learning and 'tick off' school readiness.

A key question from this position centres on the different ways content is located that allow for working theories to inform the curriculum focus and pedagogical engagement. Overly controlling content and coherence by specifying outcomes and related assessment approaches in curricular documents runs the risk of creating the default pedagogical position of formal/didactic approaches. In contrast, building curriculum around working theories allows for content to be addressed in more creative and responsive ways. *Te Whāriki* implies *holistic content* through elaboration of strands in the document (well-being, belonging, contribution, communication, and exploration) but practitioners choose the related *subject content* via children's interests and working theories. This raises further important questions, first about the sophisticated levels of professional knowledge practitioners need, and second, about the active pedagogical engagement required to resolve the polarisation described earlier between *either* overly or loosely defined structures and goals.

There are also some tensions to be resolved in engaging with working theories as informants to curriculum content. On the one hand, it is possible for practitioners to appreciate children's emergent ways of understanding, and how their interests and inquiries are formulated and expressed. On the other hand, questions arise regarding how curriculum content can be inferred or derived from children's working theories, and, assuming this is important in ECE, whether or not any content progression is coherent.

In response, we speculate that working theories may explain the ways in which intuitive, everyday knowledge develops and may later form a link to scientific, disciplinary, content knowledge (Hedges, 2012). However, the transition from the everyday to the scientific may not be as coherent as is suggested by either developmental theories, the organisation of disciplinary knowledge, or the staged and linear progression presented within curriculum policy frameworks. Within a working theories conceptual framing, changes in children's knowledge and understanding become evident over time. Progression might thereby be conceptualised differently from the more structured, time-bound, and logical sequences that are evident in some curricular policy frameworks and associated assessment regimes. This is because the development of content knowledge, and ways of knowing, can involve discrepant and

retrogressive steps, spirals of learning, knowledge building and creativity, emotions, and imagination (Egan, 2009; Hedges, 2014; Wells, 1999). Working theories are nevertheless progressive in different ways, which requires detailed pedagogical attention to their subtleties and complexities (Lovatt & Hedges, 2015). Furthermore, imagination is not cast as a cognitive trait or disposition (as psychological theory would imply), but as part of children's collective ways of coming to know.

We also argue that much of what is taught directly or indirectly in any approach to pedagogy is not learned directly or immediately; children need time to ponder, digest, embody, ruminate, wonder, check out, and play with their ideas and theories, validate these with others (peers and adults), make connections, and address misconceptions, gaps, and inconsistencies. Children experiment and try things out, through dialogue, co-construction, and sometimes mis-construction. In their seemingly random meanderings of intellectual inquiry, children grasp fragments of ideas that then become connected to more coherent wholes, eventually to become understood in curricular terms as subject or disciplinary knowledge. Thus coherence could be expressed as joint attention to the processes of learning and content that sit beside each other in working theories, incorporating ways of coming to know, and ways of knowing in relation to and in collaboration with differently knowledgeable others.

Further, whilst the ability to play with disciplinary knowledge is desirable, we argue that only when this is securely embedded can children play with their knowledge, and think creatively with and through the subject disciplines, as they enable participation in important social practices. Working theories account for children's inter- and intra-subjectivities: through their spontaneous activities, including communication, cooperation, and coordination of perspectives, children construct, co-construct, and reconstruct their theories. They declare (tentatively or with certainty), check, listen, revise, extend, and reflect on what is being co-constructed in order to reconstruct. This may be akin to the psychological processes of accommodation and assimilation, but with the distinct difference that these transactional and transformational processes are highly social, embodied, open to negotiation, and accommodating of many different types of knowledge (and ways of knowing) from children's homes, communities, and popular culture. Children reveal the spontaneous, random, and occasionally chaotic aspects of their experiences; by discussing the content of their thinking they also reveal, over time, how they are imposing some structure, coherence, and control in their own ways and on their own terms.

Children are, therefore, highly engaged in intellectual inquiry, but not in the relativist sense implied by the theories in Position 1. Children's joint engagement and participation indicate that the environment becomes more meaningful for them through their own thinking, actions, and interactions. Therefore knowledge-building is inherently bound with agency, control, power, and identities, and, in relation to Position 2, not just with the instrumental attainment of specific curriculum goals. Working theories, therefore, serve multiple purposes, including that they help children make and explain connections between knowledge and experiences, and increasingly help children predict and solve problems in relation to substantive content. In other words, we argue that content and coherence are integral to working theories but not in the simplistic ways exemplified in Position 1 or 2. Moreover, creative problem-solving processes draw on disciplinary knowledge. Working theories, therefore, allow for some freedom and creativity in how children engage with emerging ideas and concepts, including the natural, physical, and social

worlds (Hill, Hedges, & Wood, 2015), as well as deep, existential questions that include explorations about life, death, and dying (Hill, 2015), and multiple identities (Hedges & Cooper, 2015).

Articulating learning from a working theories perspective, therefore, addresses some of the critical questions raised earlier about curriculum content and coherence. First, in relation to content, working theories foreground the complexities of children's learning. Second, using working theories as the basis for curriculum design addresses the integration of both processes and content. Third, although a working theories perspective does not address the levels of control identified by Oates (2010), nevertheless, we argue that this offers potential for understanding the dynamic complexities of children's learning in ways that might eventually inform governmental practices. However, ongoing questions that relate to pedagogy and assessment remain open to further exploration in different ECE systems. These questions include those that frame approaches to assessment in radically different ways. For example, in the holistic approaches recommended in *Te Whāriki* (New Zealand) assessment has become framed as what practitioners 'notice, recognise, respond, record and revisit' (Carr, 2008, p. 44). But within this framing, further critical questions need to be explored: what do teachers know and recognise, and about which children? Whose theories do teachers choose to respond to in their short- and medium-term planning? What kinds of working theories do children commonly express? How do children both work at and with their theories? Further, who defines the subsequent outcomes of curriculum-in-action, and how these might be justifiable as outcomes? These questions also imply ethical consideration of assessment practices, particularly those that are clearly instrumental (such as the EYFS in England) in terms of measuring developmental indicators and school readiness goals. We argue for deep consideration of the ways in which a working theories perspective might speak to such an instrumental agenda in order to frame assessment in more ethical ways.

Conclusion

Practitioners, academics, and policy-makers all bring different perspectives to curriculum, along with different cultural agendas and aspirations for young children's learning and development. We have argued that from Position 1, child developmental theories speak to government policy agendas in order to organise curriculum frameworks in ways that produce versions of measurable outcomes and of school readiness. In Position 2, the underlying policy assumptions are that academic outcomes are desirable in ECE settings. These outcomes may be short-, medium-, or long-term, aiming towards achieving curriculum goals and producing socially and economically responsible citizens. Accordingly, play-based curricula can primarily be justified if these produce the desired outcomes that are stated in policy frameworks. Government-funded inquiries and reports have tended to cherry-pick which recommendations about development, learning, and play are foregrounded, based on the extent to which they align with policy priorities and ideologies. Accordingly, some contemporary research on children's learning has either not been acknowledged or developed where curricular understandings and enactments are subject to the intense levels of policy control identified by Oates (2010). Our critique of post-structural theories identifies that they are not intended to speak to either government policy agendas or to practitioners. Moreover, although these theoretical perspectives are used to

ask pertinent critical questions, they do not intend to offer a practical theory of curriculum for ECE.

In relation to Positions 1 and 2, a working theories approach (Position 3) speaks both to and against the control agendas evident in many contemporary ECE frameworks. This position retains openness to possibilities indicated in post-structural theorising, but also harnesses those possibilities to build curriculum content and coherence in ways that are not addressed in Position 1 or 2. Position 3 also shows that learning involves processes and content that are important for children, but not in the normative or linear ways that are proposed in developmental theories. The content of children's working theories might be understood in ways that align with curricular goals in Position 2, but this is not the main purpose or justification for this approach. From a working theories perspective, school readiness comes primarily from children learning to be learners and thinkers rather than adapting to overly formal approaches to teaching and learning.

A working theories approach thus respects the dynamic and complex ways in which coherence develops over time. From this perspective coherence includes disciplinary (content) and societal knowledge, knowledge in use, and how knowledge is put to use by young children in their interactions with peers and with adults. Working theories show difference and diversities, and multiple directions. However, while these directions may be multiple, they are not random, because over time they can be seen to carry children's intentions to learn, to become more knowledgeable, and to put their theories to work more effectively in the context of different activities. This approach is, therefore, more closely aligned with Pinar's (2011) dynamic understanding of curriculum: 'It is the lived experience of curriculum – *currere*, the running of the course – wherein the curriculum is experienced, enacted, and reconstructed' (p. 1).

In conclusion, curriculum in theory and in practice remains contentious in ECE, because clarity and coherence within policy documents are problematic; guidance about developmental goals and the content of children's learning is, at best, inconsistent. Nevertheless, policy faith in control must be maintained in order to justify economic investment. We argue that significant issues lie at the heart of questions about curriculum content, coherence, and control, but remain unresolved in many national policy frameworks for ECE. Indeed, these questions may be unresolvable if policy frameworks become the dominant lenses through which curricula are conceived and enacted. Curriculum should be seen as incorporating dynamic working practices, specifically what children choose to do and talk about with each other, and what practitioners enact with children to support their learning and development in a variety of ways – through play-based provision, through reciprocal relationships, as well as through intentional and responsive teaching. We argue, therefore, that a working theories approach forms a new position from which to develop future research agendas, and to continue asking critical questions about curriculum in ECE.

Notes

1. The term *practitioner* is used to denote any adult who works with children in pre-school education, whether home- or centre-based.
2. The term *preschool* is used to denote early childhood provision for children and families before the age at which compulsory education begins (which varies internationally between ages 5 and 7/8).

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No potential conflict of interest was reported by the authors.

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