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Sustainable professional learning for early childhood educators: Lessons from an Australia-wide mental health promotion initiative

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Abstract

New policy initiatives, such as those concerned with promoting young children's positive mental health, highlight the need for good quality professional education in the early childhood education and care (ECEC) sector. However, although a wealth of literature exists from the school sector, little is known about professional education in ECEC settings. This paper presents an analysis of ECEC educators' perspectives about their professional learning during an initiative to promote young children's mental health in 111 ECEC centres in Australia. Questionnaires and feedback forms were collected from educators on four occasions over two years. In addition, program facilitators rated the quality of implementation of the initiative in each centre. Thematic analysis indicated that the professional education was instrumental in building ECEC educators' knowledge about children's social-emotional learning and mental health, increased educators' self-efficacy for mental health promotion, and encouraged a more collegial and collaborative workplace. Hierarchical linear modelling supported the learning gains identified in the qualitative analysis, but showed that the effect sizes for positive change depended on the quality of program implementation. The findings highlight important synergies between opportunities for professional learning and

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workplaces that are conducive to transformation and renewal. Recommendations

from participants for improvement included the need to ensure the relevance of

content to local contexts, more extended learning opportunities, translation of

unfamiliar language, and more accessible timetabling of professional learning

sessions. Issues concerning the need to advocate for, and sustain, professional

education in ECEC settings are discussed.

Keywords

Early childhood education, mental health promotion, professional learning

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Introduction

The research reported in this article was undertaken during a time of sweeping policy and curriculum changes in the early childhood education and care (ECEC) sector in Australia; changes that are similar to reform agendas worldwide, such as in the UK (see Brock, 2012), in Japan (OECD, 2011: 117-120), in China (David, Powell and Goouch, 2010) and in Canada (Howe and Prochner, 2012).

Australian policy reforms such as the Early Years Learning Framework (EYLF) and National Quality Framework (NQF) (DEEWR, 2009) reflect the need to enact change in light of research evidence related to children's early learning. Similarly, the Early Years Workforce Strategy (SCSEEC, 2012) participation and workforce reforms seek to address the social and economic conditions that impact on the quality of young children's education and care. At the practice level, implementation of the reform agenda will require ECEC educators to review and reflect on 'taken-for-granted' knowledge and practices in early childhood education and care, and adapt or change those practices. This change process foregrounds the significant role of effective professional education for achieving curriculum and workplace reforms in the ECEC sector. To date, at least in Australia, professional education has not been embedded into the workplace practices of ECEC educators, compared to, for example, the school sector, where 60 hours of professional education over each three years, in line with National Professional Standards (AITSL, 2011), are required to maintain registration as a teacher.

Although research about professional education in the ECEC sector is

relatively limited, comparisons can be made to the school sector, where a wealth of research has identified teacher learning as the means by which educational change can be achieved (Darling-Hammond, et al. 2009; Fenstermacher and Richardson, 2005; Fullan, 2007; Hargreaves and Fullan, 1998). In fact, Desimone (2009: 181) asserted that:

> Education reform is often synonymous with teachers' professional development…Thus, understanding what makes professional development effective is critical to understanding the success or failure of many education reforms.

Turning specifically to knowledge about the relatively new area of mental health promotion in educational settings, the different types of knowledge suggested by Shulman (1987) and others (e.g. Borko and Putnam, 1996; Grossman, 1995), such as subject-matter knowledge and pedagogical content knowledge, are unlikely to have been addressed in pre-service education, and therefore necessarily rely upon in-service professional education. But Borko (2004) wrote about the inadequate nature of much professional education, which is often fragmented and superficial, and which takes little account of how teachers learn (see also Feiman-Nemser, 2001). Little (1993), also writing about school teachers, highlighted a range of issues to be considered when designing professional education necessary to meet reform initiatives. She listed the relative value of providing technical training versus teacher-led inquiry; the capacity of organizations to formally allocate time for teachers' professional investigations,

reflections and discussions (e.g. through funding class time-release or the allocation of student-free time for teachers' professional education); recognition of, and accommodation for, teachers' personal contexts, and societal and political contexts; emotional investments in teaching; and financial and human costs.

Following an extended program of work, Desimone (2009) and colleagues (e.g. Garet, et al., 2001) provided a conceptual framework of five core features of effective professional education, namely, (1) Content focus; (2) Active learning; (3) Coherence; (4) Duration; and, (5) Collective participation. These five features were derived from an extensive analysis of the literature and thus align well with other research that addresses essential components of quality professional education (e.g. Darling-Hammond, 2006; Ingvarson, Meiers and Beavis, 2005; Mitchell and Cubey, 2003). *Content focus*, regarded as possibly "the most influential feature" of the five core features of professional development proposed (see Desimone, 2009: 184), refers to the essential requirement to focus professional development on the core knowledge (including skills and attitudes) to be learned. *Active learning* is broadly inclusive of the need for professional development to incorporate interactive modes of learning such as discussion, or engaging in feedback following observation of practice; and more specifically refers to the need to move away from passive, didactic lecture style formats. *Coherence* covers both the need to align professional development with the immediate context of 'instruction', that is to be consistent with the current levels of staff knowledge and beliefs, and also within the broader context in which the professional development is delivered,

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such as relevance and fit with changing educational policies and reform agendas.

Duration is a feature that draws attention to the limited value of one-off

professional development sessions while at the same time is not prescriptive about

the time that ought to be given to ensure optimal learning outcomes. The point that

underpins Duration is that in order to achieve long-term, substantial change in

practice, professional development needs to be sustained over time. *Collective*

participation encapsulates the idea that learning is facilitated through collegial

exchange among staff who work together, for example in the same school, at the

same year level, or with the same students.

With specific reference to professional education in ECEC, Sheridan et al.,

(2009) differentiated *outside-in* and *inside-out*, as well as *initial* versus *ongoing*

notions of teacher learning:

> Initially, professional development is expected to be an "out-side-in" process,
>
> wherein the information necessary for behavior change or professional
>
> growth comes from external authorities, imparted through lectures, readings,
>
> demonstration, and verbal advice from peers, supervisors, coaches, or
>
> consultants. Later, however, professional development ideally progresses to
>
> becoming an "inside-out" process in which individuals retain responsibility
>
> to direct their own ongoing growth and improvement through continued
>
> study of current and best practices and reflective personal goal setting in
>
> collaboration with respected colleagues. (Sheridan et al., 2009: 380)

However, very little is known about professional education in ECEC contexts, and even less is known about ECEC staff learning about mental health promotion. Therefore, the aim of the study reported in this paper was to advance understanding of factors that contribute to effective professional education in ECEC settings, including a specific interest in examining the extent to which features of effective school-based teacher learning are relevant to ECEC contexts. The research questions that guided our study were:

(1) To what extent are identifiable features of teacher professional development consistent with educators' experiences of a program of professional education about mental health promotion in ECEC settings?

(2) To what extent did involvement in a program of in-service professional education have an impact on ECEC educators' capabilities, knowledge, self-efficacy and professional practices related to promoting children's mental health?

Terminology

In this paper, we adopt the term 'educators' in preference to 'workers' with a view to better recognizing the fundamental educational role of staff working in ECEC settings. Similarly, while the terms *professional development* and *professional learning* are often used interchangeably in the literature on teacher learning (Mayer and Lloyd, 2011), in this paper we use the terms professional *education* and professional *learning* to capture the sense of active involvement of staff in their own learning that Knapp (2003: 112-113) referred to as 'changes in the thinking, knowledge, skills, and approaches to instruction that form practicing

teachers' or administrators' repertoire'. This use of professional education and learning highlights a shift in emphasis away from the 'perceptions and the presumed 'baggage' associated with poorly conceived, fragmented, one-shot and de-contextualised 'in-service workshops' (Mayer and Lloyd, 2011: 3). Although we prefer *professional learning* or professional *education,* we have not changed other authors' or participants' words if they referred to *professional development.*

Design of the study

Context

This study was undertaken in the context of the 2-year pilot phase of the KidsMatter (Early Childhood) mental health promotion initiative, which was conducted in all States and Territories in Australia in 2010-2011. KidsMatter (Early Childhood) was developed in collaboration with the Australian Government Department of Health and Ageing, *beyondblue*, the Australian Psychological Society, and Early Childhood Australia (KidsMatter, 2012). The initiative aims to enable preschool and long day care centres to implement evidence-based mental health promotion, prevention and early intervention strategies to: (a) improve the mental health and wellbeing of children from birth to school age; (b) reduce mental health problems among children; and (c) achieve greater support for children experiencing mental health difficulties and their families. The aims are to strengthen protective factors for children's mental health and minimize risk factors. Four components, each to be covered over a 6-month time span, make up the core content: Component 1: Creating a sense of community; Component 2:

Developing children's social and emotional skills; Component 3: Working with parents and carers; and, Component 4: Helping children experiencing mental health difficulties.

ECEC centres involved in the pilot phase were supported by eight facilitators (one facilitator allocated to each Australian State or Territory) who guided staff in identifying goals, strategies and resources to support the centres' mental health promotion action plans; supported staff in the implementation of the KidsMatter risk and protective factors framework; and delivered professional education about each of the above-mentioned four core-content components. Approximately three hours of structured, face-to-face professional learning for each component was embedded into the program, allowing for the timing of delivery to be adapted to the needs of specific contexts (e.g. as one 3-hour session or multiple shorter sessions) within the 6-month period allocated to the particular component. In addition to support from facilitators, ECEC centres were supplied with a number of evidence-based resources to assist them in developing their capacity for promoting children's mental health and wellbeing, and to respond to concerns about the mental health of the children within their care. The model for intervention was similar to Borko's (2004: 4) figurative representation of elements of a professional development (PD) system, with the three components of facilitators, teachers and PD program situated within an identifiable context.

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Procedures

Ethical clearances were obtained from the University's Social and Behavioural Research Ethics Committee, and from each participating ECEC centre. Informed consent was obtained from all participants.

Participants

Participating centres. Expressions of interest to be involved in the pilot phase of the KidsMatter initiative were received from approximately 380 ECEC centres, from which 111 were selected to represent the diversity of ECEC within Australia. Selected centres included community, government and privately owned organizations within metropolitan, regional and remote areas in all Australian states and territories. Other factors considered in the selection process included centre type (long day care or pre-school), proportion of Aboriginal or Torres Strait Islander populations, and centres that were culturally and linguistically diverse. Table 1 summarizes the background characteristics of participating staff.

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Table 1. Background characteristics of participants.

Staff	N = 1194	Male	Female
Gender	%	2.4	97.6
Staff age	Mean (*SD*) years	33.7 (12.9)	37.2 (12.1)
Work experience	Mean (*SD*) years	6.5 (6.7)	9.8 (8.4)
Current position	% of director	0.3	9.6
	% of permanent	1.7	72.4
	% of casual	0.2	12.6
Work status	% of part-time	0.5	38.3
	% of full-time	1.9	57.3
Highest childcare or early childhood qualification	% of Year 12	0.1	3.3
	% of Certificate 3	0.6	29.8
	% of diploma or associate diploma	0.7	36.2
	% of bachelor's degree (including Honours)	0.2	18.2
	% of graduate diploma or graduate certificate	0.1	4.8
	% of doctoral or master's degree		0.8
Currently studying	% Not studying	0.9	57.6
	% Special Ed	0.3	5.9
	% Primary, secondary or other Education	0.1	9.4
	% Early childhood education or childcare	1.2	24.5

Data in this table have been reproduced with permission of the authors (see Slee et al., 2012).

Measures

Questionnaire for ECEC educators. Questionnaires were administered on four

occasions (at approximately 6-month intervals to coincide with the centres'

anticipated completion of each of the four Components) to all educators

responsible for the care of children aged between 1 and 5 years and who were in

care 10 hours or more per week. The questionnaires included: (1) six items about

the impact of the professional education on educators' general capabilities for

mental health promotion (2) seven items related to educators' knowledge about

children's mental health; (3) seven items about educators' self- efficacy

(confidence and competence); and, (4) five items about educators' professional

practices.

Feedback about the professional education sessions. Feedback forms comprised of

eight items that were developed and administered as part of the KidsMatter

initiative were collected by facilitators at the completion of each of the Component professional learning sessions. The two open-response items (items 7 and 8) completed by the ECEC educators were used for thematic analysis, namely: 'What were the best aspects of the Professional Learning?' and 'Please provide any suggestions you might have to improve the Professional Learning'.

Questionnaire for State/Territory facilitators. Near the end of the two-year pilot initiative the eight state/territory-based facilitators completed 33 multiple-choice and open-response questions about the quality of implementation of KidsMatter in the centres they had supported. The questionnaire items were designed according to three principles of implementation quality proposed by Domitrovich and colleagues (2008) as follows:

- Fidelity: the degree to which an intervention is conducted as planned;

- Dosage: the frequency and duration of specific units of the intervention and its resources; and

- Engagement with delivery: the implementation processes and responsiveness by staff and clients. (adapted from Domitrovich et al., 2008)

Quality of Implementation Index. Using the data from the facilitator questionnaire, latent class analysis (MPlus) was used to create a Quality of Implementation Index containing 20 items (Fidelity 7 items; Dosage 5 items; Engagement with Delivery 8 items) that discriminated between ECEC centres. Using the Quality of Implementation Index, 54% of centres were identified as High implementers, 32% of centres were identified as Moderate implementers, and 14% of centres were

identified as Low implementers. Detailed information on the construction of the

Quality of Implementation Index is provided by (reference withheld) (in press: 51-

56). The ECEC centres' scores on the Quality of Implementation Index were

subsequently used as a covariate in models of change over time, as reported in the

Results section of this paper.

Data analysis

Quantitative data analysis. The questionnaire items were subjected to confirmatory

factor analysis using asymptotically distribution-free (CFA-ADF) methods available

in AMOS (SPSS), which confirmed the factor structures of four groups of items,

namely, Impact of Professional Learning, Knowledge, Self-Efficacy, and

Professional Practices. Following the CFA, three-level hierarchical linear modelling

(HLM) was used to assess evidence of changes over time in ECEC educators'

responses to the four factors. (That is, four separate HLM models were analysed,

one for each outcome factor). Level 1 of the HLM represented change over time,

with four data collection points nested within each ECEC educator. Level 2 of the

HLM represented ECEC educators, and level 3 represented ECEC services.

Calculation of the intra-class correlation coefficients indicated that multi-level

modeling was appropriate for this data (Garson, 2013). Quality of Implementation

Index score was included as a covariate at level 3 of the HLM models. [1]

Qualitative data analysis. The researchers read the professional education

feedback forms and ascertained that there was little discernible difference

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[1] Details of the CFA and HLM can be obtained from the corresponding author

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between participants' responses provided at the four different times of data

collection. Therefore, the analysis was constrained to 1148 feedback forms

collected following the professional education for Component 1 (Time 1). NVivo

v9.1 software was used to support the thematic coding process. The researchers

undertook repeated readings and discussions to reach agreement on the coding of

responses to themes that represented the data. Finally, exemplar statements were

identified in order to illustrate each theme.

Results

In this section we combine the results from the HLM of the questionnaire data with

the thematic analysis of the feedback forms, using nine overarching themes,

namely, General capabilities for mental health promotion; Knowledge; Self-

efficacy; Collaboration; Professional practices; Opportunities for active learning;

Reflection, Professional Identity; and, Delivery. Each theme is more fully explained

in the discussion that follows.

General capabilities for mental health promotion

General capabilities for mental health promotion acknowledges the specific

context of this study – the KidsMatter (Early Childhood) mental health promotion

initiative, and refers to the educators' overall assessment of their professional

learning experience in relation to capacity to support the development of

children's positive mental health. The significance of context for early childhood is

salient here, perhaps even more so than for school settings given that professional

learning is a relatively new focus of attention for ECEC educators. As indicated in

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Table 2, educators' responses indicated a statistically significant improvement of a medium effect size in High Implementing centres, while in Low Implementing centres the improvement was significant and of a small effect size. It is notable that participants' responses to this set of questionnaire items explicitly recognize that it was their engagement with the professional education that led to these improvements, not other factors such as 'on-the-job' learning.

Table 2: Changes over time in HLM estimated mean scores

Implementation Index Score	Time 1	Time 4	Significance p	r	effect size
Capabilities for mental health promotion					
High	5.48	6.20	***	0.26	medium
Low	5.48	5.88	***	0.17	small
Staff Knowledge					
High	5.18	5.89	***	0.33	medium
Low	5.18	5.68	***	0.26	medium
Self-efficacy					
High	6.29	6.56	***	0.13	small
Low	6.29	6.43	**	0.08	insignificant
Impact on professional practices					
High	5.39	6.04	***	0.25	medium
Low	5.39	5.85	***	0.19	small

*** indicates $p < .000$; ** indicates $p < .001$; * indicates $p < .01$; not significant (ns) indicates $p > .01$.

Correlations of 0.10, 0.24, and 0.37 are indicative of small, medium and large effects, respectively.

Knowledge

The factor *Knowledge* is embedded in Desimone's (2009) core feature Content

focus. In our study, Knowledge represents subject-matter content related to information about children's social and emotional learning and mental health issues including prevalence, stereotypes and misconceptions. From Table 2 it can be seen that improvement in Knowledge was statistically significant and of a medium effect size in both High Implementing and Low Implementing centres.

Self-efficacy

The content of the KidsMatter professional education included modules designed to strengthen participants' skills in communicating with children and families, including building knowledge of how to recognize and respond to signs of mental health difficulties and how to access external support agencies. As shown in Table 2, only educators in High implementing centres showed statistically significant improvements in self-efficacy, equivalent to a small effect size, and this was different from the response pattern in Low implementing centres, which indicated only minimal change. However, it can be seen that the mean scores for self-efficacy were already relatively high at Time 1, so there was little room for improvement (in other words, there was a ceiling effect in the data).

Collaboration and Impact on Professional Practices

The related themes of *Collaboration* and *Impact on Professional practice* might be seen to fit with Desimone's (2009) Collective Participation feature of effective professional education. However, our analysis distinguished between these two concepts on the basis of the *process* of professional learning. Whereas Collaboration was embedded in the design of the KidsMatter professional

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education sessions, participants' reports indicated that changes in their professional practices were an outcome of, rather than part of, the structure of the professional education. Opfer and Pedder (2011) highlighted the need to consider the variety and complexity of contexts and systems in which teachers work. Even environments that may appear structurally the same, (such as ECEC centres within the same cultural and geographic region), might be substantially different on a range of features, such as staff profiles, staffing budgets, consumer (family) profiles, and child profiles. Differences between environments necessarily influence the processes of delivering professional education, and the processes by which educators engage with professional learning. Issues such as the non-linear nature of learning, and non-linear interactions between levels of systems, point to the need to consider both the content and processes of professional education.

In our study, an exemplar of participants' responses that were coded to the Collaboration theme, 'I appreciate the opportunity to discuss points as a whole staff team (particularly as staff are part-time) and the 'hands on' approach not just listening', and 'Sharing with other staff, feeling like we are all in this together' illustrates how the professional education afforded opportunities to discuss and share (stories, ideas, experiences) with others and to learn from them, as well as to work together (e.g. on the plan, implement and review cycle of the KidsMatter components).

Leading from that structural feature of their professional education, the theme Professional Practices captured participants' accounts of improved collegial

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relationships among staff as well as stronger working relationships with families, broadened understanding of their roles and responsibilities, and increased opportunity to contribute to decision-making. Table 2 shows that educators in High Implementing centres reported significantly improved outcomes related to their professional practices, equivalent to a medium effect size. Low Implementing centres also reported higher levels of agreement that KidsMatter had positively impacted on their work, to a small effect size.

Opportunities for active learning

Consistent with social constructivist theories of learning that identify effective learning environments as relational, interactive and cognitively engaging (e.g. Bransford, Brown and Cocking, 2000), active learning emerged as a key theme from the thematic analysis of educators' perspectives on their professional learning, indicating that professional education sessions were structured (a) to include group activities, role-plays and team-sharing exercises, such as, 'The diversity walk made me think about how a parent may feel different to others when they enter our centre'; (b) to be relevant, for example, 'Information was understandable and easy to relate to our centre. Made me think about how I could develop and change to provide the children with better care'; and (c) to provide time for collegial exchange, for example, to 'discuss issues and find good solutions' 'talk and work together' 'share ideas', and 'reflect on current practice'. An overarching sentiment was 'Hearing other colleagues' opinions. We don't often get to chat on a professional level'.

Reflection

From the number and range of comments provided by ECEC educators across all participating centres it was clear that the opportunity and impetus for reflection was regarded as an important feature of the professional learning that educators experienced. Reflective practice related to the ECEC centres generally was captured by feedback such as, 'realizing the centre needs to improve in a lot of areas' and 'able to think about what our centre does and how to do better'. Comments about reflective practice also related more specifically to individuals, such as 'self evaluation positive and negative', 'challenging thinking', 'think about how you act in the workplace, and how you are involved with parents, children and other staff members'.

Professional Identity

Professional Identity also emerged as a feature worthy of consideration in ECEC professional learning where, through exchange with colleagues, educators were able to develop a sense of clarity about their roles and responsibilities. Among the educators' comments that captured the concept of Professional Identity were: 'reinforcing and enlightening strengths and weaknesses, both personally and professionally', 'learning about myself in a professional way' 'gaining an overall (sense) of our individual uniqueness as carers', and 'how important my role is in children's wellbeing'.

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Delivery

The theme of Delivery identifies two related issues that emerged from our analysis

of the ECEC educators' professional learning experiences. The first theme concerns

Duration, and is used in the same way that Desimone (2009) referred to this

feature. The second is *Timing,* and is separately identified in recognition that issues

related to this theme emerged in response to the specific early childhood context

where professional education was not included in the working day.

Duration. The programmed pace of delivery was six months for each of the four

above-mentioned professional education Components. Some educators lacked

knowledge about the content and sequenced nature of the Components, with

between 6% and 14% reporting on each occasion that they did not know which

Component their centre was working on. By Time 4, there was consistent

reporting from about 70% of educators that they knew which Component was the

focus.

While the professional learning was programmed across the two-year trial

period, its configuration of one 3-hour session per component (in some centres

delivered as 2 or more shorter sessions) would be considered inadequate, based

on research evidence from the school sector (Darling-Hammond et al., 2009), and

in relation to learning new subject matter in early childhood (Mitchell and Cubey,

2003).

Timing. In addition to Duration, Timing appeared to be an important consideration

in delivering professional education in the context of ECEC. Participants indicated

that they valued the professional learning opportunities, and wanted time to engage in discussions. However, many educators struggled with the timing of professional education sessions, such as when the sessions were delivered in a long session at the end of a working day. The overall analysis of participants' statements about the time available for Professional Learning is that there was not enough time available, and that more opportunities for appropriately scheduled professional learning opportunities would be welcomed, exemplified in the following comment: 'We only had a short period of time and I think that lessons should probably be a bit longer and to get a full understanding of topics than sort of just trying to get through...'

Coherence.

Coherence refers to the alignment and consistency of the professional education related to mental health promotion with other early childhood programmes, policies and practices. From the data analysis it was evident that the professional education associated with KidsMatter did connect educators' learning with concurrent developments in the ECEC sector. Participants reported that sessions were instrumental in assisting them to understand the broader reform agenda and how to manage the change process. The educators indicated that the professional education sessions were most beneficial for clarifying the connections between the Australian Early Years Learning Framework (EYLF) and the KidsMatter mental health promotion initiatives. Some participants reported that their understanding of the EYLF improved through their involvement with KidsMatter, and anticipated

beneficial outcomes for ECEC centres and children's social/emotional development

when implemented together. Typically, participants noted that the professional

education gave 'Time to reflect and relate KidsMatter to EYLF, curriculum
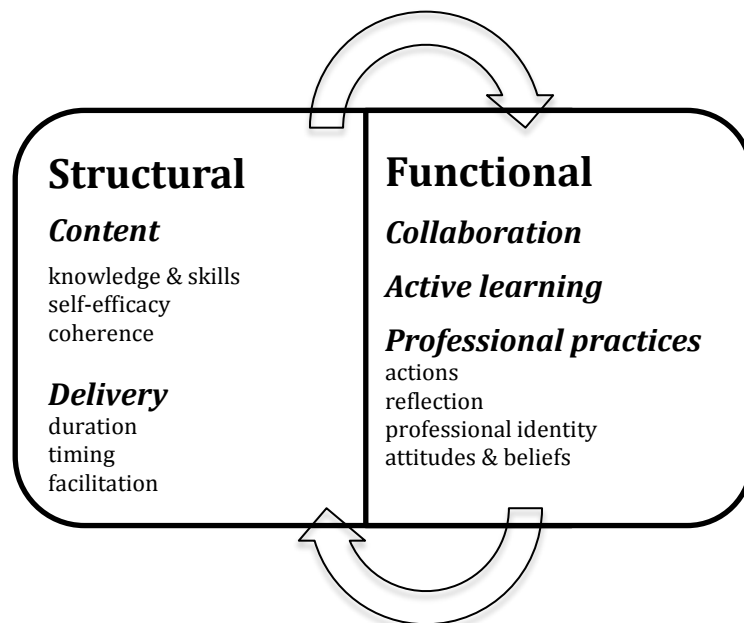
documents and national quality standards.'

Facilitation

Importantly, the delivery of professional education sessions relied on experienced

facilitators. The quality of the facilitators' input and support emerged as a

recurring theme in participants' reports. Comments included the value of 'being

led through the components', 'learning from a skilled teacher', 'to have people

come to us…rather than just going somewhere by yourself', and the links

facilitators were able to make with 'useful suggestions/examples of practice',

anecdotes, and strategies. In the context of a new domain of learning, in this case

mental health promotion, it was evident that the ECEC educators placed value on

being guided by, and given, meaningful and relevant materials and resources.

Authentic examples, activities, personal stories, and handouts were well received

by participants.

In summary, the results of data analysis into the early childhood educators'

experience of professional learning as part of a mental health promotion initiative

has helped to unpack the essential features of professional education in ECEC

contexts. It is also worth noting that the emerging themes highlighted professional

learning as an 'inside-out' process as well as encompassing the 'outside-in'

conception traditionally applied to professional education (see Sheridan et al.,

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2009). Educators' evaluations revealed insights about both the structural (e.g. delivery, content, facilitators) as well as the functional components of the learning process (collegial, active, invoking higher order thinking and reflection). Our research suggests however, that these structural (planned, controlled features of professional education) and functional components, (features that the professional learning itself generates between and among participants), do not exist independently of each other, nor along a continuum as proposed by Sheridan et al., but rather they operate reciprocally and in relationship with each other. Figure 1 provides a conceptual map of the way the themes that emerged from this study might be represented.

Structural

Content
knowledge & skills
self-efficacy
coherence

Delivery
duration
timing
facilitation

Functional

Collaboration

Active learning

Professional practices
actions
reflection
professional identity
attitudes & beliefs

Figure 1. Relationships between the structural and functional components of early childhood educators' professional learning.

Discussion

The KidsMatter (early childhood) mental health promotion initiative, trialled over

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two years, across Australia in 111 preschool and long day care centres, incorporated staff professional education as a central component. Not only was mental health promotion a new area of learning for the participating ECEC educators, professional learning itself was a new undertaking for many staff working in ECEC settings.

Our first research question asked: To what extent are identifiable features of teacher professional development consistent with educators' experiences of a program of professional education about mental health promotion in ECEC settings? Thematic analysis showed that essential concepts reported in the learning sciences and school teacher professional education literature (e.g. Bransford et al., 2000; Darling-Hammond, 2006; Desimone, 2009; Fenstermacher and Richardson, 2005) including subject-matter knowledge, self-efficacy, coherence, duration and timing, emerged from our participants' accounts of their experiences of the KidsMatter professional education sessions. Notably, these constructs emerged in a relatively new context for *formal* professional learning, namely early childhood education and care, indicating some parity between the school sector and the early childhood sector. In particular, our participants highlighted aspects of the learning process that align with social-constructivist principles and provided them with opportunities for active learning, collaboration and reflection.

In the ECEC context, the qualitative data analysis also identified a number of additional features aligned with effective professional learning, namely,

Facilitation, Professional Identity, and Reflection. While Desimone (2009) noted

Professional Identity and Teacher Reflection as components *not* included in her

framework for teacher professional education, our findings suggest their inclusion

is needed in designs for professional education ECEC settings. Reflection, in

particular, could be considered within the theme identified as Knowledge in

relation to the seminal work of Argyris and Schön (1974) on theories of, and in,

action. However, the identification of Reflection as a theme in its own right in our

study seems warranted based on participants' comments indicating that their

reflection was prompted not only by the connections individuals made with their

own practice such as: 'Confirming information, beliefs, experiences, validating

actions as a professional teacher', but also by the collaborative engagement that

the professional learning afforded such as 'Reflecting on our own practice, sharing

ideas on improvement'. This collective notion of reflection sits well with the

importance given to constructivist, contextually relevant professional learning

environments that promote higher level thinking. These features suggest that

further consideration may need to be given to the core features of effective

professional learning proposed by Desimone (2009) to meet the particular needs

of ECEC educators, and perhaps other educators (Opfer and Pedder, 2011).

Our second research question asked: To what extent did involvement in a

program of in-service professional education have an impact on ECEC educators'

capabilities, knowledge, self-efficacy and professional practices related to

promoting children's mental health? To answer this question we employed HLM.

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Although self-efficacy was relatively high at the outset of the study, the educators in High implementing centres reported feeling more self-efficacious in their ability to promote young children's mental health after two years of professional education. The impact of the professional education on educators' knowledge is an important finding in our study, providing evidence of improvement across the two-year initiative in educators' views regarding their knowledge about promoting children's mental health. The overall extent of change over the two-year period in both High and Low implementing groups indicated increases in knowledge about children's mental health to a medium effect.

Notwithstanding this change it is also noteworthy that by the end of the KidsMatter initiative about one-third of educators did not indicate strong levels of agreement with questionnaire items about their knowledge. This suggests that there was still a feeling in this sizeable group of staff that they need to improve the levels of their knowledge related to children's mental health and wellbeing and how to support children needing referral to external agencies. This is consistent with some respondents' suggestions that professional education should be a (continued) future requirement of their employment in the ECEC sector.

The results of our study highlight the situated nature of professional education as discussed by Borko (2004). ECEC educators who find that their learning and reflection are supported by management and other staff who are themselves engaging with new learning, and a work-place culture that values trying out new ideas and has safety-nets in place to support and encourage such

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risk taking, are more likely to benefit from their professional education

experiences (Feiman-Nemser, 2001). This need to embed professional education

within receptive workplaces argues against earlier models of short-term, relatively

isolated (personally and physically) modules of professional development.

It is important to note however that, unlike in Australian schools where

professional learning is an expected part of teachers' work, ECEC educators work

in a very different context. Many ECEC staff do not have degree level qualifications

(36% in this study and 58% not studying), work in settings where ongoing

professional learning is not an expectation, and are engaged in a work

environment where stability and continuity of employment is not always provided

(12% casual employees in this study and nationally approximately 30% working

less than 20 hours per week).

The majority of extant literature about professional education is situated in

school contexts, and also is often grounded in specific-matters, such as science or

mathematics. Our study points to the need for the development of new knowledge

about professional education and educators' learning in ECEC settings. For

example, ECEC educators' practice is focused on improving or maximizing a range

of developmental outcomes for children that may include, for example, feeling safe

and secure, and improving the quality of staff-child interactions. Further, the

notion of instruction needs to go beyond a focus on the content of instruction, or

on pedagogy. Practice in the ECEC context is as much tied to the organizational

structures within a centre (e.g. where and how children spend their time at the

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centre); the relationships developed with families and the extent to which families are supported; and how *non-learning* needs of the child are met.

Limitations

It should be noted that because the cross-sectional sample used in this study was not a random sample, caution should be taken if generalizing findings to other centres, staff, or children in Australia. While participants reported that their capabilities, knowledge, self-efficacy, and professional practices in relation to mental health promotion improved as a result of the professional education they received, further research will be needed to determine if these gains are sustained over time.

Conclusions

Educators' perspectives about their experiences and learning during a mental health promotion initiative in 111 Australian ECEC centres confirm that mental health promotion is a new area of learning for many ECEC staff. Furthermore, professional learning itself is a new undertaking for many educators, including approximately 30% without post-secondary qualifications. Our research contributes more detailed knowledge about what constitutes effective professional learning in ECEC settings, as well as about the effectiveness of a specifically designed program of professional education that aimed to advance ECEC educators' capabilities, knowledge, self-efficacy and practices related to improving children's mental health outcomes.

Our results revealed positive experiences aligned with features identified in the school professional development literature related to Content focus, Active learning, Coherence, Collective participation, Reflection and Professional Identity. The feature of *Duration* highlighted problems such as insufficient exposure to learning modules, and timetabling difficulties. Implications for future policy and practice for ECEC staff professional education initiatives include: costs of delivery and staff time-release; programming to meet the needs of full-time, part-time and casual staff; and, curriculum design and delivery that addresses the wide diversity of background knowledge held by ECEC educators. Our analysis indicates that designs for professional education in early childhood education and care settings need to specifically consider contextual affordances and constraints, the curriculum content, and the types of learning experiences that participants are exposed to. This is particularly relevant as imperatives such as cost and accessibility drive professional education into online modes of delivery.

This paper highlights that in this time of radical change for Australia's ECEC sector, meaningful and ongoing professional learning needs to be at the forefront of ECEC educators' work. In the absence of a strong research base for what counts as effective early childhood professional education, since much of the existing evidence comes largely from school sector research, findings of this study provide valuable data for early childhood practitioners and policy makers alike.

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Table 1. Background characteristics of participants.

Staff	N=1194	Male	Female
Gender	%	2.4	97.6
Staff Age	Mean (SD) years	33.7(12.9)	37.2(12.1)
Work Experience	Mean (SD) years	6.5(6.7)	9.8(8.4)
Current Position	% of Director	0.3	9.6
	% of Permanent	1.7	72.4
	% of Casual	0.2	12.6
Work Status	% of Part-time	0.5	38.3
	% of Full-time	1.9	57.3
Highest Childcare or Early Childhood Qualification	% of Year 12	0.1	3.3
	% of Certificate 3	0.6	29.8
	% of Diploma or Associate Diploma	0.7	36.2
	% of Bachelor Degree (including Honours)	0.2	18.2
	% of Graduate Diploma or Graduate Certificate	0.1	4.8
	% of Doctoral or Masters degree		0.8
Currently Studying	% Not studying	0.9	57.6
	% Special Ed	0.3	5.9
	% Primary, Secondary or Other Education	0.1	9.4
	% Early Childhood Education or Child Care	1.2	24.5

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Table 2. Changes over time in HLM estimated mean scores.

Quality of Implementation	Time 1 Mean	Time 4 Mean	Significance *p*	r	effect size
Capabilities for mental health promotion					
High	5.48	6.20	***	0.26	medium
Low	5.48	5.88	***	0.17	small
Staff Knowledge					
High	5.18	5.89	***	0.33	medium
Low	5.18	5.68	***	0.26	medium
Self-efficacy					
High	6.29	6.56	***	0.13	small
Low	6.29	6.43	**	0.08	trivial
Impact on professional practices					
High	5.39	6.04	***	0.25	medium
Low	5.39	5.85	***	0.19	small

*** indicates $p < .000$; ** indicates $p < .001$; * indicates $p < .01$; not significant (ns) indicates $p > .01$.

Correlations of 0.10, 0.24, and 0.37 are indicative of small, medium and large effects, respectively (Kirk, 1996).
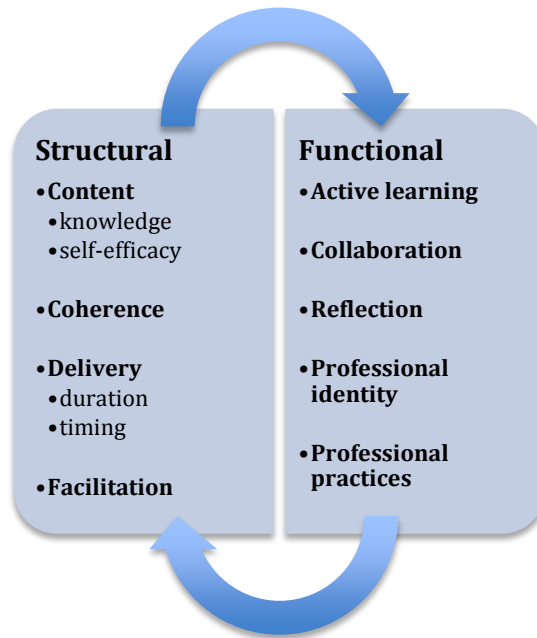
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Figure 1. Relationships between the structural and functional components of early childhood educators' professional learning