

‘Mind the Gap: A Mapping of Entrepreneurship Education Literature relating to Early Childhood Education’.

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Abstract

The relationship between entrepreneurship education and early childhood education and care is under-researched and underdeveloped. A whole section of society - children - are at a highly receptive age to engage in entrepreneurial attitudes, behaviours, and activities, yet the broader scope of entrepreneurship education does not include children of preschool age (2.8 to 5.6 years). Entrepreneurship education should be delivered at an early education level as research evidences that children exposed to entrepreneurial learning opportunities can significantly develop entrepreneurial non-cognitive skills, and this has a noticeably positive influence on their continued education through the school system. Self-reinforcing non-cognitive skills such as creativity and persistence make it easier for children to develop and apply other important non-cognitive skills and have a crucial influence on subsequent educational stages

However, the transformative role of their educators needs to first be recognised and built upon. Early Childhood Educators need to be equipped with tools to embrace and engage in entrepreneurship education. Academic leaders in entrepreneurship education and early childhood education need to collaborate and build partnerships to embed entrepreneurial teaching within ECEC courses. Policymakers need to recognise the importance of an entrepreneurship education strategy that bridges all levels of education and recognises the ECEC educator as a peer education professional. A number of stakeholders need to cooperate in both research and practice to bring entrepreneurship education to young children. As such, this research provides a scoping review of the literature relating EE and ECEC, highlighting the work and research that needs to be done going forward. This research also proposes a conceptual framework for bridging those gaps and bringing all the necessary stakeholders together.

Introduction

This research comes at a time where both entrepreneurship education and early child education and care are at crucial development points in Ireland. Over the past two decades there has been a significant increase in entrepreneurial activity globally, across all sectors of business and society. The Irish government is keen to increase entrepreneurial activity, and this requires provisions of appropriate supports to develop and nurture an enabling environment. The 2014 National Policy Statement on Entrepreneurship in Ireland identified that entrepreneurship is a key element in the health and wellbeing of any thriving economy. SME and entrepreneurship policy actions are included in a range of national policy documents and statements in Ireland, including the Economic Recovery Plan 2021, Action Plan for Jobs 2018 and the strategic documents of individual government departments including: Enterprise 2025-Renewed; Impact 2030; National Research & Innovation Strategy 2021-2027; National Smart Specialisation Strategy for Innovation 2022-2027; National Skills Strategy; National Strategy for Higher Education 2030; Harnessing Digital - The Digital Ireland Framework 2022

While much literature suggests entrepreneurial activity is based on culture (Audretsch, et al, 2017; Fritsch et al, 2019) some researchers suggest that one of the pillars of generating entrepreneurial activities is the fostering of an entrepreneurial mindset amongst the general population (Kuratko et al, 2020; Robinson & Gough, 2020; do Paço and Palinhas, 2011; Kuratko, 2005). Entrepreneurship education is widely acknowledged as an important factor in creating and building an awareness of the idea and values of enterprise and entrepreneurship and ultimately creating successful entrepreneurs in the future (Lundström et al, 2008).

Globally, education systems are constantly evolving, and new areas of focus are being introduced to, and addressed by curricula, in all tiers of the education system including issues such as sustainability,

inclusiveness, cyber bullying, social equality and diversity, to name just a few. Importantly for the purposes of this research, entrepreneurship education is another such issue that is being integrated more into the learning environment. This research seeks to examine the significant gap in addressing early childhood educators as the starting point in the influencing and nurturing of entrepreneurial development and thinking in children. The ECCE (Early Childhood Care & Education) preschool programme in Ireland will be used as a case study as a basis for this research. The OECD (2021) explores the impact Early Childhood Education & Care (ECEC) programmes, have on the economy and society in general and this research substantiates that quality ECEC is pivotal for future generations. As such, this research suggests that entrepreneurship education should therefore be a factor embedded in the Irish ECCE programme. By promoting entrepreneurial thinking as a natural progression of learning in children from the age of just under 3, one could consider the many long-term possibilities and opportunities for them in the future. This learning may also support the progression of entrepreneurship education further down the line to primary, secondary, third level and indeed Continuous Professional Development (CPD) and Lifelong Learning.

This paper is focused on establishing the extent that entrepreneurship education is delivered to preschool children within the early childhood education and care sector and is guided by the research question - how can early childhood educators foster an entrepreneurial mindset in preschool children in Ireland? The objective of this research is to investigate how early childhood educators can be supported in promoting an enterprising culture in preschool classrooms.

The ECCE (Early Childhood Care & Education) Scheme

Large bodies of evidence point out that experiences in early childhood matter crucially for later life outcomes (Currie & Rossin-Slater, 2015). High quality ECCE is powerful and impacts children's holistic and academic development more than any other period in education (Whitebread, et al, 2015). From 3 years onwards the evidence is consistent that pre-school provision is beneficial to educational and social development for the whole population (Van Huizen & Platenga, 2018).

The Irish ECCE scheme (2010) is a universal 2-year pre-school programme for children aged 2.8 years to 5.6 years. It is a child's first formal experience of early learning and is provided 3 hours a day, 5 days a week, 28 weeks of the year (September to June). The principles of *Síolta* (the National Quality Framework) and *Aistear* (the National Curriculum Framework) apply to all children in early years care and education, from birth to 6 years, including children undertaking the ECCE programme. These frameworks place the child at the centre of participation and learning and indicate that learning opportunities and environments should be provided by ECEC educators to elicit inquisitiveness, exploration and creativity (NCCA, 2009)

Aistear, the Irish word for journey, is implemented in Early Childhood Education and Care (ECEC) settings across Ireland (Woods et al, 2021). *Aistear* celebrates early childhood as a time of learning from experiences as they unfold (NCCA, 2009) and lays important foundations for later learning (Egan, 2020). The curriculum provides for ECEC educators to plan for and provide enjoyable and challenging learning experiences, so that all children can grow and develop as competent and confident learners (NCCA, 2009). *Aistear* is underpinned by 12 interconnecting principles presented in 3 groups and communicates the learning goals and aims - dispositions, values and attitudes, skills, knowledge, and understanding (NCCA, 2009) - that are important for children in their early years, and offers ideas and suggestions as to how this learning might be nurtured (Egan, 2020)

The framework takes on a thematic approach and contains suggestions and practical exemplars of practice to support ECEC educators to provide quality learning experiences for young children. The 12 principles of early learning and development that *Aistear* is based on is presented in 3 groups representing children and their lives in early childhood, children's connections with others and how children learn and develop.

Aistear demonstrates the capacity to be a curriculum framework that recognises and respects the rights and needs of every child. Research is evident that a play based, emergent curriculum, such as *Aistear*, is paramount in enhancing children's learning and development in all spheres of life (NCCA 2009, McMonagle 2012; French 2013). Yet the area of entrepreneurship or enterprise education has been neglected for inclusion in this curriculum. An examination of the literature surrounding children and educators within the ECEC stream of

education and its connection to entrepreneurship education is necessary to identify gaps and potential bridging of educational aims.

Review of the Literature

The Child in Early Childhood Education

Neuroscience literature evidence that new-born babies have 100 billion brain cells (El Khuluqo, 2016) and 80% of the brain has developed by the age of eight (Jalongo, 2007). In fact, during the first five years of a child's life their brain develops more and faster than at any other time in their life (Sharma & Cockerill, 2014), highlighting that children are primed to learn and in fact born with an enterprising nature (do Paço and Palinhas, 2011). Entrepreneurship can be nurtured in every human being and the development of entrepreneurial traits can be cultivated from an early age, including self-confidence, creativity, teamwork, caring for the environment, hard work, discipline, independence and responsibility (Christianti et al, 2015). Children learn these values from everyday active experiences (Axelsson et al, 2015).

As the developmental stage of initiative occurs during the years 3 to 5 (Jones, 2012) playful learning captivates children's minds in ways that support better academic and social outcomes as well as strategies for lifelong learning (Hirsh-Pasek et al 2009). This literature substantiates that early childhood is the ideal time for teaching and learning and the prime stage to influence attitudes towards entrepreneurship. This is coupled with research that promotes that the entrepreneurial process can lead to empowerment, value creation and an overall better quality of life (Blenker et al, 2012). Adopting an entrepreneurial lifelong learning skill is most appropriate in children and adolescents as the prospect of setting up a business is far too remote for them (Peterman & Kennedy, 2005)

There are some scholars whose literature supports the idea that entrepreneurship education in primary schools is essential in supporting many skills and abilities (Jones, 2019). As such it can be suggested that entrepreneurship education at preschool level can incite entrepreneurial self-efficacy (Nowiński et al., 2019), entrepreneurial awareness (Agboola, 2020) and as such can shape mindsets, attitudes, and behaviours (Huber et al, 2014). Young children are more primed for learning, and so childhood is the ideal stage to influence attitudes towards entrepreneurship (Axelsson et al, 2015). Learning by doing, engaging in entrepreneurial activities, influences and stimulates the entrepreneurial mindset of students and compels them to engage in entrepreneurial behaviour in the future (Robinson and Gough, 2020).

The aim of early childhood entrepreneurship education should be to develop entrepreneurial non-cognitive skills e.g., risk-taking, propensity, creativity, need for achievement, self-efficacy, pro-activity, persistence, and analysing - these skills are thought to be best developed at an early age (Rosendahl-Huber et al, 2014), and will enable children to contribute positively to economy, society and community in the future. Cognitive skills are also developed in infancy and pre-school, however as reasoning only develops from the age of 6 (El Khuluqo, 2016), non-cognitive skills should be the primary focus within the ECCE scheme. This lends to the question: how can these skills be developed in early childhood and who will drive and support this learning?

The ECEC Entrepreneurship Educator

Entrepreneurial spirit can be instilled by teachers when children are at an early age (Suzanti & Maesaroh, 2017), which suggests that the child's education programme has a fundamental role to play in this task (Do Paco & Palinhas, 2011). Teachers are a key factor in affecting children's attitudes and the development of an entrepreneurial mind-set as they are one of the most influential and prominent factors in children's interest at school (Hagar, 2013). ECEC professionals profoundly shape children's everyday interactions, influencing their learning, development and well-being (OECD, 2021). Entrepreneurial learning as a teaching and learning approach should be used by preschool educators to help children develop an entrepreneurial mind-set and to culture entrepreneurial skills that will grow with them as they progress through the education system changing and evolving people's way of thinking and behaviour (Fayolle, 2018) and will allow them to positively contribute to society and the economy (Axelsson et al, 2015).

While literature continues to highlight the on-going developments in entrepreneurial learning and entrepreneurship within a school setting it has not been made clear what types of entrepreneurial competencies are necessary to practice within the preschool context (Axelsson et al, 2015). Research indicates that the aims and practices of entrepreneurship education are confusing and unclear to teachers due to lack of resources, assessment challenges, time constraints and costs (Lackeús, 2015). Teachers are often reluctant to acknowledge entrepreneurship education in consequence to its business- oriented associations (Seikkula-Leino et al, 2010). Teachers need inspiration and support to provide entrepreneurial learning environments for their students (Sagar, 2013). Wraae et al. (2020) state that entrepreneurship educators need to identify and develop an awareness of their own role in the entrepreneurial learning space and how the role aligns with a teaching focus. The educators need to recognise the need for a shift in the role if they want to contribute to students' identity formation and empowerment.

Turning to practices in Europe, The Eurydice Report: The teaching profession in Europe: Practices, Perceptions and Policies (2015) identifies a mismatch between topics covered by CPD activities and actual needs of teachers. In addition, the TALIS Report (2019) shows a mismatch concerning teaching cross-curricular skills, to which the key competence 'entrepreneurship' belongs. The transfer of teaching strategies from a self-experienced learning in an authentic setting, to the teachers own practice does not automatically occur (Sagar 2013).

Several studies and reports have underpinned that quality in ECEC depends on competent staff who can work on an equal footing within a holistic framework in which the concepts of 'care' and 'education' are interdependent (UNESCO 2010; European Commission, 2011; European Commission/EACEA/Eurydice/Eurostat, 2014). The Effective Preschool Provision Education study (Sylva et al, 2004) and The European Quality Framework for ECEC (European Council, 2019) further suggest that quality professional development has a huge impact on the quality of staff pedagogy and children's outcomes. Becoming a competent educator is a result of a continuous learning process, through which one's own practices and beliefs are constantly questioned in relation to changing contexts (Urban et al, 2012). Participation in high-quality ECEC supports children's development in cognitive, social and emotional and self-regulatory skills, with implications for learning beyond early childhood (OECD, 2020) and as such the availability of entrepreneurship IPD (Initial Professional Development) and CPD (Continuous Professional Development) for ECEC educators may prove to be very effective.

This is further supported by evidence in the Eurydice Report: Entrepreneurship Education at School in Europe referring to The European Commission's stance on teacher education institutions providing opportunities for student teachers to learn about, through and for entrepreneurship. *'They should enable student teachers to explore and develop a range of pedagogical techniques which are underpinned by active learning approaches, a willingness to experiment and 'to try new things' and to draw upon a wide range of learning contexts both within, but particularly outside the institution'* (European Commission, 2011a, p. 23).

Within the Irish context, the Department of Education and Skills Statement of Strategy 2021-2023 (p.8) has as its first strategic goal to *'support the provision of high-quality education and improve the learning experience to meet the needs of all students, in schools and early years settings...providing every child with a learning experience that supports them to reach their potential and to develop the knowledge and skills they need to navigate in today's complex world'*. The strategy stresses the focus on the overall development of the whole person, the whole child, and commits to improving and exploring new approaches to teaching and learning. The strategy also aims to develop and support the education workforce and strengthen their teaching, committing to Continuing Professional Development.

The ECEC workforce is fundamental to ensuring high-quality ECEC for all children and are key agents for assuring the quality of the ECEC system (OECD, 2021). However, in part due to historical views that childcare is a woman's unpaid duty, this vital workforce is not regarded, in Ireland, as the educational professionals that this sector requires. ECEC educator's initial professional education has been identified as one of the strongest predictors of the quality of interactions within ECEC settings (Manning et al, 2019). The OECD (2021) recommends the provision of professional development strategies for ECEC staff, including opportunities for CPD, onsite learning and informal collaborations ensuring continuous engagement in learning opportunities, which shape the foundations of quality ECEC.

In Ireland, new qualification requirements and criteria have been introduced in recent years for initial education programmes for ECEC educators, with the aim of improving quality and consistency. Incentives and regulations are in place to raise the education level of the ECEC workforce. Defining standards for initial education, such as on its content or inclusion of a practical component e.g., entrepreneurship education, can be an effective means of ensuring quality and consistency across programmes. Rather than the traditional didactic approach of simply passing on information, the early childhood educator is deemed a facilitator, supporting children to become independent learners, creating learning opportunities in everyday actions and activities, bridging educational theory with educational practice (Miels, 2005). This leads to the questions; does entrepreneurship education fit into this early level of education and what does previous research indicate?

Entrepreneurship Education

Entrepreneurship education has long been recognised as one of the most instrumental elements in fostering entrepreneurial attitudes and mindsets (Gorman et al, 1997; Kourilsky & Walstad, 1998, Lackeus, 2015). Definitions of entrepreneurship education have been argued and critiqued over many decades (Jones & Iredale, 2014; Matlay, 2008; Pittaway and Cope, 2007; Gibb, 1987). Scholars have offered narrow definitions of the expected outcomes of entrepreneurship education to include new venture creation and new business start-ups (Kourilsky & Walstad, 1998; Matlay, 2006) and wider definitions to include the idea pursuing innovation by exhibiting enterprising behaviour (Gibb, 1987).

The European Council has adopted a recommendation from the European Commission on eight key competencies for life-long learning - one of these competencies being Entrepreneurship. The Commission states that *'entrepreneurship competence is founded upon creativity, critical thinking, problem solving, taking initiative and perseverance....'* (European Commission, 2019, p.13). This European wide understanding and acceptance of entrepreneurship as a key competence was further developed by The European Commission Thematic Working Group on Entrepreneurship Education and provided that *'Entrepreneurship education is about learners developing the skills and mind-set to be able to turn creative ideas into entrepreneurial action. This is a key competence for all learners, supporting personal development, active citizenship, social inclusion and employability. It is relevant across the lifelong learning process, in all disciplines of learning and to all forms of education and training (formal, non-formal and informal) which contribute to an entrepreneurial spirit or behaviour, with or without a commercial objective'* (The Eurydice Report (2016): Entrepreneurship Education at School in Europe p.21).

This definition has a dual focus. Firstly, the development of entrepreneurial attitudes, skills and knowledge should facilitate individuals to exploit ideas and initiate action. Secondly, entrepreneurship is not only related to economic activities and business creation but includes a wider focus applying to all areas of life and society (Lackeus, 2015). Innovative and creative action can be taken within a new enterprise, or indeed within existing organisations, i.e. as 'intrapreneurial activity' (The Eurydice Report (2016): Entrepreneurship Education at School in Europe p.21).

Hoppe (2016) citing Jamieson (1983) contends that one of the leading entrepreneurship education frameworks is based on three categories to recognise the different types and roles of entrepreneurship education. The framework makes a distinction between education about enterprise, education for enterprise and education through enterprise (Hoppe, 2016). In 'about entrepreneurship', the aim is to create and improve awareness about entrepreneurship and to motivate students to select entrepreneurship as a potential career choice and consider self-employment (Gibb, 2008). In 'for entrepreneurship', the aim is to motivate students to enhance their intentions and behaviours as future entrepreneurs. In 'through entrepreneurship', the aim is to support future graduate entrepreneurs, developing entrepreneurial competencies and supporting value creation (Matlay et al, 2012; Fayolle, 2018).

Jones (2019) discusses that entrepreneurship education courses aim to pitch business ideas to investors and working with real-life entrepreneurs. The students are immersed in experiential learning. The focus is on learning by doing to achieve the best outcomes from entrepreneurship programmes (Mukesh and Mamman, 2020). Furthermore, Isabelle (2020) considers that this framework involves dividing the activities between student and teacher and students lead the learning process with passive support from the teachers. The

integration of authentic entrepreneurial activities' experience into entrepreneurial educational programmes ensures rigor that affects the entrepreneurial skills, intent and behaviours as well as embedded self-efficacy (Neergaard et al, 2020).

These concepts sit closely with Gibbs' (1987) promotion of 'enterprise education' as opposed to 'entrepreneurship education'. The objective of 'enterprise' education is to help develop enterprising people through the 'process' of learning where they will develop personal skills and attributes such as initiative, problem solving, risk taking, self-awareness and confidence, creativity, resourcefulness, negotiating skills, motivation and commitment to achieve (Gibb, 1987, p.13). As such entrepreneurship education can adopt a broad variety of goals ranging from learning objectives to socio-economic objectives (Fayolle, 2000). Entrepreneurship education should therefore provide students with knowledge, abilities, and skills to act entrepreneurially to achieve commercial or non-commercial objectives. It should balance conative, cognitive, and affective aspects of learning to maximise opportunities for experiential learning through social, organisational, and economic circumstances (Burger-Helmchen, 2012).

Jones and Iredale (2010) add to the differentiation between enterprise education and entrepreneurship. They contend that the primary focus of entrepreneurship education is on identifying opportunities to start, grow and manage a business, whereas enterprise education focuses on acquiring and developing enterprising behaviour, skills, and attitudes to be carried through life. The traditional entrepreneurship teaching method focuses on theoretical knowledge for entrepreneurship education and is delivered through economic and business education at the university level. In comparison, innovative and creative pedagogical approaches are used in enterprise education (Larios-Hernandez & Walmsley, 2022) and are suitable for all levels of education.

Enterprise education has an essential role in developing responsible citizenship in business education and work-related curriculum Davies (2002). It provides the ability to manage uncertainty and positively respond to change, create and implement new ways, make risk and return assessments, and act upon them in both personal and working life. To expand this notion further Blenker et al (2011) state that enterprising behaviour depict an individual's creative and innovative qualities and create a foundation for a positive attitude to change. Enterprising behaviour in fact portrays entrepreneurial behaviour, as it can be applied from personal and commercial intention. As such enterprising behaviour can be fostered by supporting individuals to identify opportunities in their everyday life (Jones, 2017).

Entrepreneurship Education has emerged in different educational contexts, with specific aims to cultivate an entrepreneurial culture, to create new business ventures and to foster entrepreneurial mindsets in the context of education and learning (Kuratko, 2005). Entrepreneurship education aims to equip, young people, to become entrepreneurial thinkers who will contribute to economic development and sustainable communities (Raposo & Do Paco, 2011). The World Economic Forum (Volkman et al, 2009) proposes that the earlier people are exposed to entrepreneurship education, the more likely they are to engage in entrepreneurial behaviour and become entrepreneurs in the future.

Penaluna & Penaluna (2015) note that entrepreneurship does not need to be a specific taught subject or module. It can in fact be a method of teaching that encompasses experiential learning. Pittaway and Cope (2007) state that there is a lack of research that links different pedagogical methods and student entrepreneurial outcomes. The pedagogical methods emphasise exploration, experimentation, and discussion, and there is a lack of knowledge in terms of propensity to turn into entrepreneurial behaviour. These authors argue for a distinctive form of entrepreneurial learning which highlights specific learning processes using experiential elements. They argue for the importance of situated learning, emotional exposure, and action orientation within an educational setting.

Building on this, Bell & Bell (2020) emphasise the need for an experiential approach in response to the traditional didactic process-driven entrepreneurship education approach. The experiential approach offers the opportunity to develop mindset and skills for entrepreneurship and is essential for pedagogical competence in quality and delivery teaching and learning in higher education. Bell & Bell (2016) integrate pedagogic and education theory into a three-stage framework for experiential entrepreneurship to support entrepreneurship educators within higher education based on philosophies and theories that inform the learning process. The framework focuses on the role of learner and educator where experiential entrepreneurial education is rooted in constructivism. While educators emphasise 'what and how to deliver experiential entrepreneurship

education, their study focuses on the 'why' within the process to maximise educational practices' effectiveness. The effectiveness of these educational practices is aligned with learning objectives that relate to personal development, awareness and mindset or culture.

Data and Methodology

A scoping review of the literature was used to address the research question and objective. The purpose of the scoping review was to provide a greater understanding of the factors that can influence access to entrepreneurship education within in the early childhood education and care field, and may lead to improved education delivery, with the potential to improve the enterprising behaviour and the fostering of an entrepreneurial spirit in young children.

Scoping reviews have been adopted by researchers from many fields and have become an increasingly popular form of knowledge synthesis. Although primarily conducted in the medical and healthcare research field (Arksey & O'Malley 2005; Colquhoun et al, 2014), scoping reviews have gained popularity in the field of entrepreneurship, particularly in recent years, and is evidenced in a number of works (Al-Lawati et al, 2022)

Moher et al (2015) suggests that scoping reviews are ideal for initial overviews of a broad field. Supporting this suggestion; it is contended that scoping studies aim to rapidly map key concepts, sources and types of evidence; and importantly, is specifically designed to identify gaps in the evidence base and areas where there are no existing comprehensive reviews (Arksey & O'Malley, 2005; Mays et al, 2001). Perhaps the most comprehensive explanation of the use of scoping reviews of literature is that it *“is a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge”* (Colquhoun et al, 2014, pp.1293-1294).

The scoping review was influenced by the five-stage framework developed by Arksey and O'Malley (2005) and further refined by The Joanna Briggs Institute (JBI). While this framework provides a sound methodological foundation, research evidences that there is a significant lack of adequate methodological description or detail about the data analysis process, posing challenges and questions regarding the findings of studies. Arksey and O'Malley (2005) encouraged future researchers to refine their framework to enhance the methodology. As such a modified adaptation of the framework was developed by Levec et al (2010) and it is this modified framework that is adopted in this research paper. Levec et al's framework significantly clarifies and enhances each stage of the original framework.

Eligibility criteria / Search and selection strategy

The PCC (Population, Concept and Context) framework, recommended by the JBI was used to identify the main concepts of the research question. This PCC facilitates checking for any missed inclusion or exclusion criteria in the protocol and informs the search strategy and its proficient search strategy direction have been demonstrated in man scoping reviews (Al-lawati et al, 2022). The PCC for this research concentrated on a population preschool children and educators and concepts of entrepreneurship education within the ECEC context.

An exhaustive search returned 6 publications from peer reviewed articles in commercial academic publications that met the exact protocol requirements. Due to this very narrow scope return, it was deemed necessary to expand the search to scope evidence not published in commercial academic publications; to include non-ranked journals, conference papers and dissertations - grey literature. Paez (2017, p.233) explains grey literature to be ‘that which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers’. As such articles not formally published by commercial academic publishers (Haddaway et al, 2015) but that fit the precise criteria of the protocol and PCC framework were included in this paper resulting in 17 additional papers. Taking the adapted PRISMA flow diagram as illustrated by Al-Lawati et al (2022), the flow chart of literature searching used in this study is illustrated in Figure 1. These 23 studies (available upon request) were selected based on meeting

the overall protocol requirements and addressing the research objectives. From these 23 studies, 4 peer reviewed academic publications and 8 grey literature studies had a focus on entrepreneurship education in preschool. The remaining 12 publications, while in their theoretical framework included early years education, methodologically focused on primary school and general education of children. These 12 publications were included for their theoretical contribution to this study. This study notes however, that from the 23 studies analysed, no study contributed to the field of entrepreneurship or entrepreneurship education, nor were any publications found in entrepreneurship related journals or conference proceedings. This illustrates the significant gap in research in this emerging educational field.

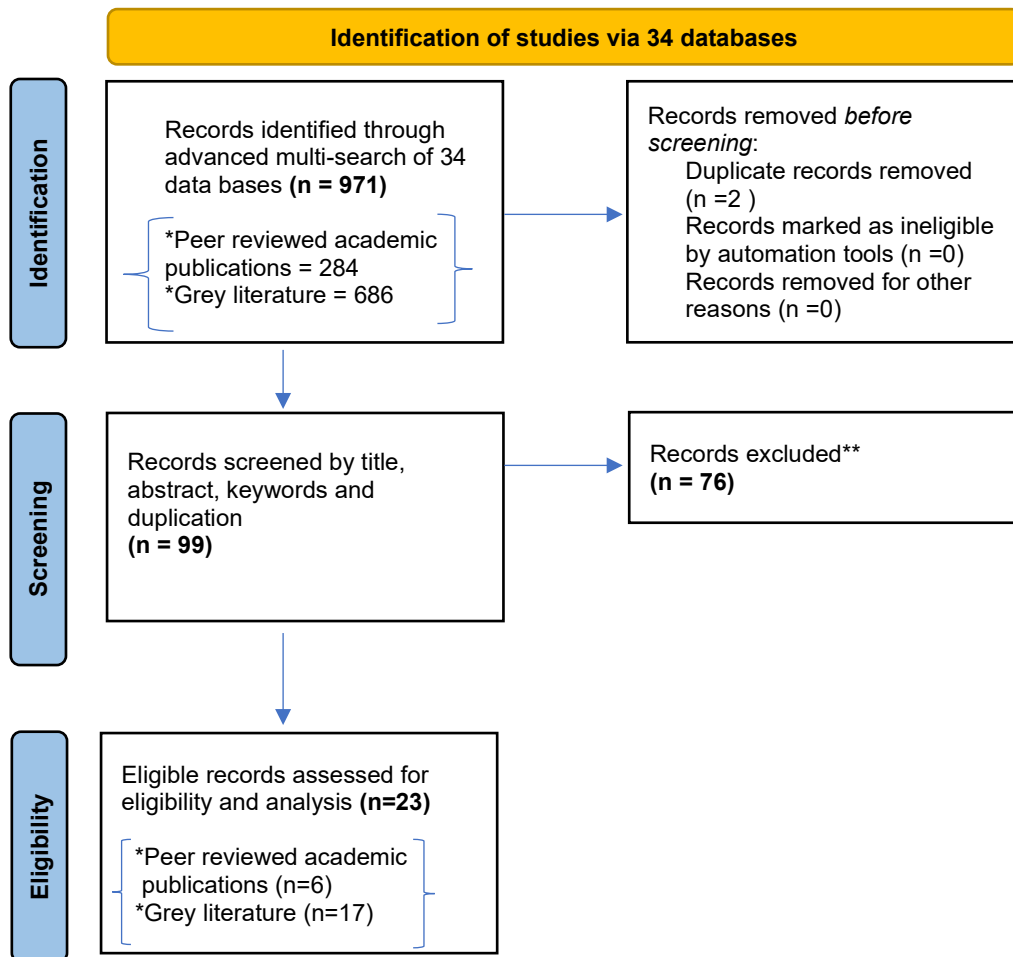


Figure 1: PRISMA flow diagram for literature search (adapted from Page et al, 2021)

Findings: The EE-ECEC Framework

Having scoped the literature in this area and identifying a significant lack of research or engagement in the area of entrepreneurship education in the ECEC sector, a conceptual framework (figure 2) for entrepreneurship education in early childhood education & care has been developed to propose a structure to bridge the gaps in these two areas of education. The framework is adapted from the entrepreneurship education conceptual framework developed by Jones & Matlay (2011) which supports 5 major collective elements that contribute to a greater appreciation and understanding of entrepreneurship education. This research has developed and extended these elements to include a 6th major contributor in education - the government. The model for this paper presents a framework for entrepreneurship education in the context of preschool, in particular the Aistear curriculum, which is implemented for all children who partake in the ECCE preschool scheme in Ireland.

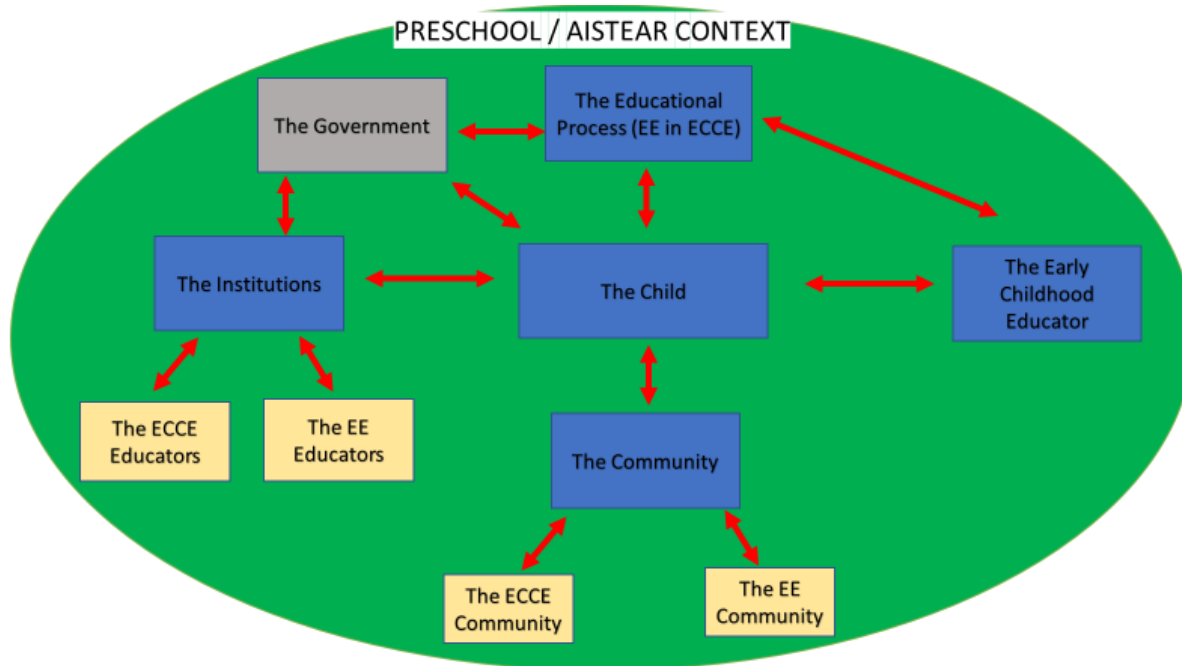


Figure 2 - The EE-ECEC Framework (adapted from Jones & Matlay, 2011)

Entrepreneurship education has a prevailing philosophy of student-centredness (Matlay, 2006; Jones & English, 2004; Bell & Bell, 2016; Robinson et al, 2016; Bell, 2020), where the learning approach should be student led (Fiet, 2001). This philosophy and approach coincide very closely to the child led, child centred pedagogical approach to early childhood education (Jarvis, 2005; Woods, 2017; Fisher et al, 2020) and to the Aistear curriculum (NCCA, 2009; Woods et al, 2021). As such, the child is the central element of this framework, and all other elements of this framework are intrinsically linked to the child and their educational development in the area of entrepreneurship. This framework suggests a new variation to the complex nature of entrepreneurship education, offering an exciting opportunity for entrepreneurship education to be embedded into the holistic development of children, viewing these children as people and *'not merely learners'* (Jones & Matlay, 2011, p.695).

Both socio-cultural theory and social constructivism are drawn on in the development of this entrepreneurship education framework for ECCE educators. Sociocultural theory focuses on the interactions between people and the culture that they live to learn (John-Steiner and Mahn, 1996). The constructivist stance suggests that because individuals are not blank slates, new knowledge and learning is a process, building upon prior knowledge and how people make sense of experiences and observations. (Brandsford et al, 2000, Aminah & Asl, 2015). Child development and learning unfolds through social interactions with adults and other children and through adapting their behaviour based on their interpretations of experiences (Gray & MacBlain, 2015). Researchers have pointed out the striking similarities between entrepreneurial education and constructivist education (Löbler, 2006). Moreover, the Piagetian inspired holistic approach to education is also drawn upon in considering this framework, given its relevance to connecting entrepreneurship and enterprise education with early childhood education and care, 'encompassing the development of a rich understanding of the world through active, hands-on, experiential, child-centred processes' (Egan, 2020, p.23).

Each of the following elements of the framework is intrinsically linked, and for the practice of entrepreneurship education to begin at pre-school level each element plays a pivotal role in the process.

The Preschool Child in ECCE

Karaoglu (2020) suggests that pedagogy embraces strategies and instructional techniques that facilitate learning and provide opportunities for acquiring knowledge and skills within specific material and social contexts (Siraj-Blatchford et al., 2002). In early childhood education, pedagogy provides the basis for children within the ECEC setting to experience effective learning and teaching (Gupta, 2015). Johansson et al. (2011) explain that early childhood education pedagogy is a tool between outcomes defined in curricula and guiding

documents for children's interaction and learning approach. Pedagogy can be viewed from a broader perspective by integrating values, curricula and philosophies that influence the social, political and operational context (Garvis et al., 2021). This evidence supports the inclusion of entrepreneurial learning in the Aistear curriculum, with appropriate guides for the ECEC educators.

Early childhood education has a continuum of pedagogy, including child-centred instruction (Jarvis, 2005). The emphasis on learner-centred, inquiry-based instruction has challenged the didactic foundations of 3rd level programmes (Bain, 2004). This method of instruction facilitates student's ability to find, evaluate, use and think critically about information, explore, develop and communicate solutions. Child-led pedagogy embraces children's participation through self-learning activities. It involves an approach in which teachers facilitate learning by providing various experiences, engaging children in active/playful learning, encouraging children to choose a plan, guiding children through skill acquisition and encouraging children to reflect on learning experiences (Veraksa, et al, 2021). The benefits of child centred instruction include encouraging children to concentrate and persevere, motivating children to pursue higher levels of education, learning negotiation and resource-sharing skills and developing collaboration and cooperation skills through involvement and engagement in activities (Fisher et al, 2020)

Developing this idea further, Woods (2017) states that child-led learning, also known as child-initiated learning capitalises on children's ability and capacity to investigate the world. The adult makes informed decisions about when to observe and interact, and their role is not dictatorial. A safe environment and space for children to practice, experiment and rehearse what they already know or are being taught under the support of an adult exists (Fisher, 2019). Briggs and Hansen (2012) add to this in that child-led learning differs from structured teaching in which children pursue their interests rather than a particular schedule, and the adult has the facilitator role. Arnott (2018) proposes that child-led learning is a constructivist approach in which the child is given space, time and opportunity to explore and play in their own time and ways. The child decides on the learning opportunities based on their interests, and the child retains power and control.

Evolving this learning ideal, Chadwick and Webster (2010) discuss that child-led play allows practitioners to observe and reflect and gives the child the opportunity to develop and share ideas. Fisher et al (2020) states that teachers aid the child to practice their ideas by suggesting strategies and practical support for the child to work with. The benefits of child-led play include increased self-esteem, improved confidence, intrinsic motivation, language skills development, problem skills improvement and high levels of self-worth, all competencies intrinsically linked to the skills that are gained from engaging in entrepreneurship education. The main goal of most entrepreneurial education is to develop some level of *entrepreneurial competencies* (Lackeus, 2015). There are significant similarities between many of the identified entrepreneurial competencies and non-cognitive benefits e.g., innovativeness, proactiveness, perseverance, self-efficacy, learning skills and social skills (Lackeus, 2015)

The ECCE Educator

While the child is the centre of developing this concept, the role out of entrepreneurship education in preschool cannot happen without the involvement, commitment and interest of the preschool education. They play the key bridging role between entrepreneurship education and early childhood education and care. Sumitra et al, (2021) state that the essential role of an educator in the preschool context is to plan and prepare the environment for learning. After planning and preparation, the educator's role shifts to one of facilitator. In early childhood, teaching is not limited to knowledge and information passed to children but supports children to become independent learners (Sullivan and Glanz, 2009).

Data gathered from such observation is used for planning and assessment and enables the teacher to provide an appropriate experience for each child (Grotewell and Burton, 2008, p.247). Gray and MacBlain (2015) state that observing another person's behaviour for learning is called modelling. Bandura and Walters (1977) theory of social learning maintain that children watch, imitate and identify what others do and follow examples. Modelling is a powerful teaching technique that enables children to imitate behaviour reflected in children's behaviour, words, and actions (Macnaughton, 2003). In tangent with this, early childhood educators need to support children through scaffolding. This helps to support children's progress in making sense of the

world around them and help them to accomplish tasks that are difficult to achieve alone (Allen and Cowdery, 2015). The quality of teacher-learner interaction is seen as crucial when scaffolding the learner's learning (Bodrova & Leong, 2018).

Vygotsky's concept of the zone of proximal development (ZPD) is defined as "*the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peer*" (Vygotsky, 1978, p.88, cited in Shabani et al 2010 p.238). This notion presents the idea that individuals learn best when working together with others during joint collaboration, and it is through such collaborative endeavours with more skilled persons that learners learn and internalise new concepts, psychological tools and skills. (Shabani et al, 2010). Education must 'run ahead as the adult helps the learner to climb the next step' (Yaroshevsky, 1989., p.277).

A teachers ZPD is thought as a learning space between their present level of teaching knowledge of content (theoretical) and pedagogical knowledge and skills and their next (potential) level of knowledge to be attained with the support of others (Blanton et al, 2005), This definition provides us with the possibility not to restrict ourselves to regard the teacher educator as the only source of scaffolding and to consider observation, child achievement data, continuing professional development and initial professional development as other sources that can change a teachers ZPD. Vygotsky expands the concept to maintain that what a learner performs collaboratively or with assistance, the learner will later perform independently.

Professional learning and development for early childhood educators is increasingly recognised as pivotal in supporting curricula that are socially and culturally relevant to children. Sumison et al (2015) identify the need for professional learning models that encourage educators to develop an 'evaluative stance' (p.422), encompassing the ability to engage in critical thinking and to evaluate beliefs and practices. Johnston et al (2019) contend that the ideal situation is where the existing skills and experiences of early childhood educators are built upon with professional learning approaches, and these approaches should respond to specific requirements in the early learning context. As already evidenced in the literature, there is a lack of knowledge in the area of entrepreneurship education amongst many teachers. Penaluna et al (2015) propose that for any educator to be competent to engage in creativity, innovation and opportunity recognition matters, neurological functionality should be considered, and even understood. This coincides closely with the neuroscience literature emphasising learning abilities in babies and children previously discussed.

Researchers, experts and policy makers have reached a consensus about the fact that the quality of ECEC and ultimately its outcomes depend on competent staff (Peters et al, 2017). If quality is at the forefront of ECEC, then continued training, in all areas of education is essential for ECEC educators going forward. The European Quality Framework for ECEC states that 'recognising the ECEC workforce as professionals' is key. Professional development has a huge impact on the quality of staff pedagogy and children's outcomes. Practitioner inquiry as a professional learning strategy acknowledges educator autonomy and capabilities in contextually relevant ways (Groundwater-Smith and Campbell, 2013) and is very effective when it is collaborative and responsive to the skills and experiences that educators bring with them (Carter and Fewster, 2013; Hadley et al, 2015). Thereby facilitating a lead in change within their teaching practices, thus enabling ECEC educators to build knowledge and practice in entrepreneurship education.

The entrepreneurship education process in ECCE

With so many variations of definitions on entrepreneurship and entrepreneurship education and their pedagogical approaches (Fayolle & Gailly, 2008 in Lackeus, 2015) it is understandably difficult to assess the best approach to encouraging entrepreneurial teaching in preschool. However, the teaching 'through' entrepreneurship approach is a practice that can be relevant to all students in all levels of education (Lackeus, 2015; Smith et al., 2006; and Handscombe et al., 2008) be that children undertaking the ECCE scheme or the ECCE educators themselves, or indeed ECEC third level students. A more sustainable starting point in early childhood education could be to 'perceive entrepreneurial education to achieve more interest, joy, engagement, creativity and societal value creation among students' (Lackeus, 2015).

Approaches need to be taken where entrepreneurship can be integrated into the existing Aistear curriculum. Understanding and appreciating the wider relevance of entrepreneurship education will resonate better with students and teachers in all levels of education (Lackeus, 2015), beginning with preschool. Progression models have been proposed to support the varying learning outcomes of learners at varying different stages of the education system and may also support teachers varying pedagogical approaches to promoting and developing entrepreneurial programs (Gibb, 2008, Blenker et al., 2011, Mahieu, 2006). Supporting the ‘child-centred’ philosophy of early childhood education, Gibb (2008) proposes that entrepreneurship education should be embedded in a child-centred manner in primary education. However, pre-primary education has not been considered in the progression model literature, and so there is an opportunity to extend the model, given the research evidence that this cohort of learners are at a prime educational stage for entrepreneurial learning. Further research encourages this concept where Blenker et al (2011) determine that entrepreneurship education is not generic, educators need to tailor their approaches relevant to the learner’s stage in education. Regardless of desired outcome, be it new venture creation, economics growth or social change, an entrepreneurial approach to life is a mandatory component of all entrepreneurial education (Blenker et al, 2011, in Lackeus, 2015).

The Institutions - Entrepreneurship Education within Early Childhood Education programmes

Entrepreneurship education within 3rd level Early Childhood education undergraduate courses in Irish HEI’s is at present, offered in a very small majority of courses. Those courses that are offered focus on the ‘for entrepreneurship’ approach (Ndou et al, 2018) and provide modules that look at educating students on new venture creation, self-employment and enterprise development, the idea of becoming an entrepreneur (Fayolle and Gailly, 2008, Mahieu, 2006). As evidenced in this research, entrepreneurship education is not provided or promoted in most Early Childhood Education programmes in Irish HEI’s (available upon request). If early childhood educators are to provide entrepreneurship education to preschool children, foster entrepreneurial mindsets and thinking, the gap in their own education needs to first be addressed. Interdisciplinary action and cooperation between entrepreneurship education and early childhood education departments needs to be developed. Teaching processes and a sharing of knowledge needs to be deliberately drawn together.

The CoRe report (Competence Requirements in Early Childhood Education & Care) (Urban et al, 2012) contends expanding good-quality early childhood institutions for the educational attainment of the children and for the foundation of life-long learning. At the very core of professional competence lies the constant ability to connect the dimensions of knowledge, practice and value through critical reflection. ECEC educators work increasingly in complex and changing contexts of diversity, dealing with unpredictability and reconstructing daily practices become crucial aspects of professional competence. Therefore, becoming a competent practitioner is the result of a continuous learning process, a process through which one’s own practices and beliefs are constantly questioned in relation to changing contexts. Individual competences are not enough - competent systems - which include collaborations between individuals, teams and institutions and which has a competent governance at policy level are needed. A competent system is described as one that builds upon staff’s initial good education and CPD, which includes providing regular opportunities to co-reflect on ideas and practices.

Professional learning and development for early childhood educators is increasingly recognised as pivotal in supporting curricula that are socially and culturally relevant to children. (Johnston et al, 2020). The Starting Strong VI report (OECD, 2021) determines that ECEC educators require comprehensive initial education programmes, ongoing professional development during employment and supportive working conditions to effectively engage in high-quality interactions and have the confidence to innovate in their sector. ECEC educators need strong initial preparation, opportunities to participate in ongoing professional development and supportive working conditions to engage in high-quality interactions with young children. From an Irish perspective, Daly and Foster (2009) argue that to adhere to the lofty expectations set out in Aistear, ECEC educators require extensive education. With regards to professional development in the area of entrepreneurship, research evidences that partaking in enterprise education at the initial teacher education stage increases awareness and receptiveness to entrepreneurship (Tiernan & Deveci, 2021)

The Government - Entrepreneurship Education and Early Childhood Education Policy Makers

The European Commission contend that high-quality early childhood education and care lays the foundations for later success in life in terms of education, well-being, employability and social integration. One of 7 targets by The European Union for the European Education area is that by 2030 at least 96% of children between 3 years old and the starting age for compulsory primary education should participate in early childhood education and care. The European Commission's 2015 'Entrepreneurship Education: A road to success' report examined 91 studies from 23 countries evidencing that entrepreneurship education works. The report supports that being entrepreneurial is not just about starting and running new ventures. It's about the willingness and ability of individuals to turn ideas into action. It's about creativity, innovation, risk-taking, the ability to plan and manage projects, the ability to achieve objectives, awareness of context and the ability to identify, create & seize opportunities. These are skills that can also be used by employees to provide innovative inputs within organisations (so called intrapreneurs). The skills can also be used to address wider societal issues, not just commercial applications and indeed in personal and family life. Supporting this theme, the Entrepreneurship Forum Report (Department of Business, Enterprise and Innovation, 2014), has as one of its pillars of success, an aim to create an innovative 'can do' culture.

The 2006 European Commission and Norwegian Government Conference on 'Entrepreneurship Education in Europe: fostering mind-sets through Education and Learning' highlighted that there is international evidence that students who receive entrepreneurship education excel in life skills, work skills, academic performance and are more likely to find employment. *'The primary goal of entrepreneurship education is not to get everyone to start their own business but to give our young people the ability to think positively, to look for opportunities to make things happen, to have self-confidence to achieve their goals and to use their talents to better society (economically and socially)'* (p.16).

However, The Eurydice Report: Entrepreneurship Education at school in Europe Report (2016) identifies that some 75% of countries within the EU do not have any strategic recommendation on entrepreneurship education in relation to initial teacher education (ITE) (Student educators). This reports also presents evidence that promotes the development of focused and specific entrepreneurship education strategies as they offer *a more coherent and comprehensive approach to supporting entrepreneurship education* (Eurydice Report, 2016, p.10). With Ireland still without a national Entrepreneurship Education Strategy, this is an optimum opportunity to consider policy and offer a method of bringing the early years education and care sector into the entrepreneurship progression framework.

Discussions about embedding entrepreneurship in education in Ireland are very visible and on-going (Entrepreneurship 360, 2015). Entrepreneurship education is not explicitly recognised as an objective at primary or secondary school level but is recognised as a cross-curricular objective. However, it is not recognised on any level as an objective of pre-school education. Ireland's National Skills Strategy 2025 published by the Department of Education and Skills includes a commitment to develop an Entrepreneurship Education Policy Statement which will inform the development of entrepreneurship guidelines for schools. Education and training providers will place a stronger focus on providing skills development opportunities that are relevant to the needs of learners, society and the economy, and as such, should identify the need to provide entrepreneurial education to the ECEC sector.

The European Council Recommendations on High-Quality Early Childhood Education and Care Systems (2019) evidence that children create the foundation and capacity to learn throughout life. Importantly learning is an incremental process; building a strong foundation in the early years is a precondition for higher level competence development and educational success. Therefore, early childhood education and care needs to be regarded as the foundation of education and training systems and be an integral part of the education continuum. This research further supports the proposal that preschool is the ideal starting point to engage in fostering and developing entrepreneurial thinking and behaviour.

Participating in early childhood education and care has multiple benefits both for individuals and for society, from improved educational attainment and labour market outcomes to fewer social and educational interventions and more cohesive and inclusive societies. Adding entrepreneurship education to early childhood

curriculum, with support from national government could in fact see these outcomes improve even further. As previously presented in this paper, the earlier entrepreneurship education is provided, the more likely students are to engage in entrepreneurial behaviour and activities.

The Entrepreneurship & Early Childhood Education Communities

As communities change and evolve the role of entrepreneurship education can also change and evolve as engagement with the local community expands (Jones & Matlay, 2011). Communities can contribute to a holistic perspective and approach to entrepreneurship education in preschool children. Programmes that engage other stakeholders, especially businesses, universities, families and youth organisations considering the school as a learning organisation are key (EEPN, 2020). Education and care from the earliest stages has an essential role to play in learning to live together in heterogeneous societies. These services can strengthen social cohesion and inclusion in many ways (The European Council Recommendations on High-Quality Early Childhood Education and Care Systems 2019)

Analysis

This framework builds on Jones & Matlay's vision and elicits that entrepreneurship education now needs to be viewed from the preschool child's perspective. The nature of entrepreneurial learning demands a broadening of the curricula. *Learning outcomes are designed around choice* (Jones & Matlay, 2011, p. 700). Entrepreneurship education can be made part of all areas of curricula if teachers' entrepreneurial competences are developed (EEPN, 2020). Building relationships and creating professional networks will play a vital role in early childhood entrepreneurship education becoming a reality. The EntreComp provides a good basis for framing entrepreneurial skills and competences of early childhood educators. All educators need similar entrepreneurial skills and competences, and they need to collaborate for a role model education approach. There is a significant need to invest in research as well as practice in improving teacher entrepreneurship in schools. Initial training as well as in-service training needs to embed teacher entrepreneurship, and this needs to be reflected in related policies. (EEPN, 2020).

Understanding the intertwined relationships of the educators, institutions, community, government and the child will encourage the emergence of purposeful relationships and a bridge between all stages of educational progression. What will make entrepreneurship education in early childhood education successful and effective is an understanding and appreciation of the value and importance of the early childhood education and care sector, and its prominence as the first step in formal education. Stakeholders, including both entrepreneurship and early childhood educators and importantly policy makers, must be cognisant of the learning abilities of this cohort of learners and open to the wide interpretation of entrepreneurial learning and its values.

Jones & Matlay (2011) challenged future researchers to become active in the development of a shared teaching philosophy for entrepreneurship education. *'Defending our teaching space, becoming fascinated by the way we approach entrepreneurship education, will allow us to become masters of our own destiny'* Jones & Matlay (2011, p.702)

Conclusion

This research asks how can early childhood educators foster an entrepreneurial mindset in preschool children in Ireland and suggests a conceptual framework for how early childhood educators can be supported in promoting an enterprising culture in preschool classrooms. There is without question room to expand the learning objectives of the Aistear Curriculum and indeed to expand the programme outcomes of Early Childhood Education programmes in HEI's. Learning objectives can relate to awareness, mindset, culture or indeed simply personal development. As such in the context of early childhood education, entrepreneurship education should aim at developing a taste for entrepreneurship in its broadest sense and stimulating a spirit of enterprise and value creation (Fayolle & Klandt, 2006). The Oslo Agenda for Entrepreneurship Education in Europe aspires to "embed in schools and higher education elements of entrepreneurial behaviour (curiosity, creativity, autonomy, initiative, team spirit) already in primary school education" (Penaluna & Penaluna 2015, p.7). This agenda should extend to early childhood education, in particular preschool, where children develop

in preparation for primary school. However, a future relationship between entrepreneurship education and early childhood education requires committed collaboration both within research and practice.

The contributions of this research are far reaching and offer new knowledge to entrepreneurship and education literature. A high proportion of countries are responding to the changing needs of everyday society to include emerging values in their pre-primary curriculums but there is more to be done. The European Council resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) has as one of its strategic priorities the enhancing of competences and motivation in the education profession at all levels. To support innovation, inclusion, quality and achievement in education and training, educators must be highly competent and motivated, which requires a range of professional learning opportunities and support throughout their careers.

In the Irish context, the launch of The National Early Years Strategy 'First Five' (2019-2028) sets out to develop an effective early childhood system for positive early experiences. The findings from the authors subsequent research may assist in contributing to the developments of these planned systems. While this strategy encompasses a wide range of initiatives and policies relating to the education of the child within the early child education and care setting, there is a substantial absence of any reference to the fostering or nurturing of an entrepreneurial mindset. The Workforce Development Plan that is part of the 'First Five' strategy aims to achieve a full graduate workforce in the early years education and care sector by 2028. This means that early years educators will be exposed to further learning opportunities and continuing CPD, an ideal time to implement entrepreneurship education training programmes for these practitioners.

This and subsequent supporting research may advise and contribute towards shaping a domestic Entrepreneurship Education policy, one that may be inclusive of all generation of learners. This research may also contribute internationally to innovative or enhanced strategies on entrepreneurship education in early childhood education and care. Furthermore, this research aims to support the recognition of Early Childhood Educators as education professionals and as such may also advise on Early Childhood Education policy domestically and internationally. "Teaching entrepreneurship is not a job; it's a privilege" (Engel et al, 2016, p.24)

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