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TEACHERS' PROFESSIONALISM WITH CHILDREN UNDER THREE YEARS OF AGE

A systematic literature review and implications for
Chinese policymakers

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Abstract

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The field of early childhood education and care is expanding rapidly in recent years. However, the relevant research and policy with a specific age focus on children who are under three years old remain extremely scarce. The neuroscience has proved that the very first years of experience play a critical role in children's holistic development, even up until late adulthood. Many countries' policymakers have introduced various practical policies to serve this age of children better, including *the Guidance opinions on promoting the development of childcare services for infants and toddlers under the age of three* in China in the year 2019. This study has found three emerging themes from the 39 most relevant previous primary studies with a systematic literature review method, to give implications for Chinese policymakers for future infants' and toddlers' education and care in the context of China.

Foreword

Now in China, the education system receives serious criticism. A brand-new slang has emerged and is widely acknowledged by Chinese citizens called “Nei Juan”. The direct translation is “rat race” which refers to an unlimited, meaningless, and competitive pursuit of life without enjoyment. When it comes to the Chinese educational system, this jargon relates to the very competitive educational environment. There is one old saying that education is one of the most effective and direct ways to change your fate in the context of China. This belief is deeply rooted in the Chinese heart. However, due to having the second largest population in the world, educational resources become rather limited. To have their children enrolled at a quality high school or university for a future better life, Chinese parents spend a lot of money on extra private classes for their children in order to obtain better scores compared to their peers.

However, this phenomenon has changed to another level in recent years. Simply said, it is not only about having extra classes but also having private classes as early as possible. For example, 8th-grade students start to study physics at school in Jiangsu Province. It is more than common that most of the students have already finished all the content of physics with “help” from private classes in the summer before they enter the 8th-grade level. Same as the subject of chemistry which students start to learn in 9th grade at middle school in Jiangsu Province, however, almost all of them have already studied it before 9th grade. School teachers acknowledge this situation. Under these circumstances, school teachers usually go through the content rather quickly or even skip teaching the content (since almost all the students have already studied it). During school time, teachers offer students endless exams to practice-relevant knowledge. Chinese parents do not agree with this type of education, but they do not have a way out, since everyone surrounding them does it, so they have to do the same in order to not be left behind. Parents are exhausted, and students are under tremendous pressure. But, under this situation, the only thing they can do is to adapt themselves to this unhealthy education system. They have to and need to offer their children a quality and “early” education in order to have a better position in this competitive education system.

This unique educational phenomenon occurs in high school, middle school, primary school, kindergarten, and now even before kindergarten in China. For example, teach a toddler another language and mathematics as much/early as they can to develop better academic competence at a very young age.

Infants and toddlers need to have respect from politicians, teachers, and parents. We need to respect their own natural uniqueness. They develop from play, from a warm environment of relationship. They need to be just them. Infants and toddlers are the future of China. What they need is to offer them a quality, warm, sensitive, responsive, and stable care and education environment from every level of society. In reality, this does not exist. There is no state-run infant and toddler education and care system in China, or to say, it disappeared with the development of society. From this perspective, the motivation for the current study emerged.

In the end, I would like to show my great gratitude to my family, for their loving and tremendous support. Additionally, I want to express my heartfelt thanks to all the IMER teachers for their patient guidance and knowledgeable lectures. This dissertation is and will be always in the deep of my heart which reminds me of all the invaluable experiences as a master student at Gothenburg University.

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Chapter 1 Introduction

Early childhood education and care (ECEC) is not an unfamiliar term. In fact, it is a constantly growing field in most parts of the world (Miller et al., 2012). By its initial and direct meaning, ECEC serves young children. However, it is more than that. ECEC has two main policy goals: promoting children's holistic development at an early age and also supporting parents' participation in the job market (OECD, 2018). These two goals are closely interconnected, they also cover and influence other policy areas, such as labour and social welfare (OECD, 2018). Driven by these goals, more and more attention is given to ECEC. Not surprisingly, early education and care is expanding rapidly (Miller et al., 2012).

The TALIS report from OECD (2018) compared enrolment in early education and care service centres of children who are under three years old across 25 countries in the years 2005, 2010, and 2017. All countries in the survey showed an uphill trend during this period and most of them experienced a significant increase, for example, Norway showed an increase in enrolment from 32% in 2005 to almost 60% in 2017 (OECD, 2020).

With regards to the latest research, the common age to be involved in early childhood education and care is two or three, according to the data from the OECD (2023). On average, for children who are under the age of two, the enrolment in ECEC is 18%. The average enrolment increases to 43% for the children who are about two years old. When the children come to age three, early childhood education and care become more common in the most of OECD countries, with average enrolment at 74% (OECD, 2023). Clearly, the percentage of ECEC enrolment is relatively high at age three. From a logical perspective, under three years old education and care should be one of the focus areas for policy makers and practitioners, however, this is not the case and most of the attention is directed to children who are older than three years old (Garvis et al., 2013; Garvis & Lemon, 2015; Gilken et al., 2023; Han, 2023).

Many terms which share a similar interest appear in the field of ECEC, such as preschool, pre-K, daycare, childcare, play group, kindergarten, and nursery, and the age is often discussed inclusively without cautiousness. Children who are aged under three are an undervalued and underestimated area (Cadima et al., 2020). This paper is designed to provide a contribution to fill in this age gap. To be more specific, in this study, infants and toddlers' education and care (ITEC) is the term to describe the group of children who are under three years old.

Infants and toddlers are the youngest age group learners. They are dependent greatly on parents, other family members, and educators. They communicate with people in their own unique way, such as facial expressions, crying, mumbling and even kicking. They seem to know nothing but also appear to know things more than you can imagine. They learn and grow faster than any other period in their lives, so the first few years are crucial for them, according to the findings from Harvard University (2020). Home is the place where infants and toddlers spend the most in their daily lives, parents are the closest people to them, and they have a tremendous influence on infants and toddlers' development. Outside the home, centre-based day care is a place for the youngest children to spend time, one of the second most. In this paper, centre-based educational daycare is the focus in terms of the setting.

Infants and toddlers' education and care centres play a key role in providing a safe setting for the youngest children to stay, play, sleep, socialise, and develop in a group when their parents are at work, although the enrolment in such services varies from family to family. The quality of infants' and

toddlers' education and care at the centre-based day care is critical, and it matters to every child and family. Simply put, as parents, they would like to choose a centre that they feel is secure for their babies. Parents do not need to worry about their child's safety or being neglected when he/she is fussy when they are at work. A quality care centre for infants and toddlers has a great positive impact on promoting children's cognitive, social-emotional skills, academic achievement, and psychological growth, according to a report from Harvard University (2020). But, what is quality? According to research, quality refers to process quality and structural quality in the setting of ECEC (OECD, 2018). These terms will be addressed in the following part. In the current study, process quality is the focus. Qualification of teachers for infants and toddlers is one of the most important indicators to ensure the quality of care. In this sense, I propose the research questions here:

1. *What is the conceptualisation of teachers' professionalism for children who are under three at centre-based day care?*
2. *What does the preservice teacher education content need to include?*
3. *What policies are there to target the under three years age group?*
4. *What does the finding mean in relation to the context of China?*

Chapter 1 is the part of the introduction. I will focus on relevant topics on the basis of quality education and care for children who are aged from birth to three, together with Chinese local phenomena in order to have a better picture and understanding of this current study. Chapter 2 is the problem statement. Namely, how and why has this topic emerged? Chapter 3 is the part of theoretical framework. Bronfenbrenner's theory of ecological system is applied in this study in order to have a structural understanding of quality in the setting of 0 to 3 years old. Chapter 4 is the literature review. I will highlight some main findings and key authors in the field of ITEC, and show how my study can fill in this research gap. Chapter 5 is the methodological framework chapter. In this section, I will explain why and how a systematic literature review is used as a method to support my study. Chapter 6 is the key one in which I will present the results/findings in a deceptive and analytical way. Chapter 7 is about discussion. In this part, I will discuss and examine the results with regards to the research question I stated earlier, together with implications for Chinese policy makers to show what/how my results really contribute to research and increase the understanding of this specific phenomenon. Finally, chapter 8 is the part of conclusions. In this area, I will end my study by presenting my results again in a concise way. Also, I will point out how future research could develop with a focus on this topic.

1.1 Children's age in the field of early childhood education and care

Early childhood education and care is commonly involving children who are preschoolers. Different countries have different or slightly different identification in terms of age. In New Zealand, the policy context recognises infants who are from birth to 18 months, toddlers who are from one to three years old, and young children who are more than three years old (White et al., 2016). According to the National Australian Children's Education and Care Quality Authority (ACECQA), children's age differentiation is according to the pre-service teacher's compulsory placement, from birth to two, three to five, and older than five in Australia (Garvis & Lemon, 2015). In America, early childhood usually means children aged from zero to eight years old (NAEYC, 2009). UNICEF identifies Early Childhood Education Learners' age as between zero to eight years old. In the mainland of China, children are enrolled into kindergartens at the age of three (Han, 2023). Under the age of three, infants and toddlers are taken care of by family members, or daycare centres and this phenomenon is becoming more common in China. Globally, more and more researchers and policy makers have recognised the importance to differentiate age in early childhood education and care, due to different ages having their own distinctive physical and cognitive attributes. They require different professionalisms and policy requirements in the provision of services for zero to three years old and three to five years old, and there are distinct differences (Schachter et al., 2022). In this paper, the age range of 0-3 years old is the focus.

1.2 The image of infants and toddlers

One of the common words to describe infants and toddlers is baby. From our traditional perspectives, the baby is small, cute, active, and almost dependent on adults with everything. As Jean Rockel described infancy is a period of vulnerability and the youngest ones can spend a lot of time with adults (2009). They want to be held, to be close to their parents. However, when baby grows up to a certain period, they suddenly understand, communicate, and interact with others more than we thought (Burr & Degotardi, 2021). They are skillful communicators (Dalli, 2008). Babies are too small to eat on their own, they need help with their diapers, sleep, food, and walk. They seem to know nothing, and it is not a bad way to describe babies. On the contrary, it shows care, concern, and love. But, do they really know nothing? They express themselves through their own way, for example, body language with a non-verbal approach. Sometimes, even from screaming, and crying. The youngest ones are capable and competent agents (Knight, 2023). Understanding and interpreting them properly become more crucial. Infants and toddlers require rather different levels of interactions (Clark & Baylis, 2012).

In China, there is a rather well-known saying to describe the three years olds: *San Sui Kan Dao Lao*. This means a child shows his/her personalities when he/she is three years old and this most likely can predict who he/she is for the rest of life. Another saying is also quite common: *Shui Dai Xiang Shui*. This means a baby develops more likely towards the one who takes care of him/her the most. Imitation, a word we could think of here. Infants and toddlers are fast, quiet, invisible imitators. They intimate adults, and surroundings without even our notice. In this sense, education becomes necessary. It is evident from a neuroscience perspectives that about 90% of babies' brain development occurs in the first few years, according to the findings from Harvard University (2020).

When comes to education and care with babies, a question emerged: are they students? It is ascertained that a baby is a learner from birth (White & Dalli, n.d.). So, it is not entirely improper to describe babies as students. This group of students, in this case, babies are a bit different compared to "real" students. They are fast and cannot-sit-still learners. It is impossible to ask a baby to sit without moving, like school-aged children, and this is against their nature. Take a trilingual toddler as an example here, he does not need (and also he cannot) to sit in the class to learn the three different languages, it is impossible. He learns naturally from his daily interactions with adults without purpose. As his close parents or caregivers, we just need to constantly talk with him through our own language. He then picks it up from one single word, then two words, then an expression, and later a sentence. The needs of babies are different compared to children who are older (Miller et al., 2017).

In the field of education and care, teachers play a critical role in optimizing the students' learning outcomes. This study is about early education and care with a specific focus on children who are under three years old. Teacher-centre teaching approach is not ideal with this age group. Child-centre approach is well-recognised in academic research (Rockel, 2009; White et al., 2016; Wu & Perisamy, 2021). As infants and toddlers' teachers or caregivers, they need to stay alert to keep them safe at the centre-based care, in the meantime, babies are encouraged to explore and move with curiosity. It is their right to experience and wonder in their lives (Miller et al., 2017).

1.3 Infants and toddlers' education and care is important

Brain architecture is shaped by the early years experiences which provide a basic platform for future development, such as behaviour and learning. According to the neuroscience from Harvard University, more than 1 million new neural connections form every second in the first few years (2020). This period of process plays a foundation role in children's holistic development.

It is well-documented that government investments in the field of early years education are positively related to the development of human capital and adult outcomes, and also reduce the social costs in terms of public health and crime rates (Wu & Perisamy, 2021). Many countries in the world introduce different policies based on the same goal, which is to ensure the quality of infants and toddlers education and care. In Singapore, the Childcare Centres Act and Regulations were introduced to support care centres for working mothers to ensure that infants can have a quality day care (Wu & Perisamy, 2021). In Sweden, parents are offered rather generous parental leave to guarantee the youngest ones have parental care. In the United States of America, the Department of Health and Human Services oversees the Child Care and Development Fund, which is a funding source offering child care subsidies for low-income families, in addition to the Early Head Start Program and the Maternal, Infant and Early Childhood Home Visiting Initiative, which are programs with a focus on infants and toddlers (White & Dalli, p.165). In New Zealand, Te Whariki was established in 1996 and it is considered a historical moment for infants and toddlers, since a child's right as a learner from birth was recognised by policy makers. Pathways to the Future: Nga Huarahi Arataki was a more broad specific platform to promise to improve the quality of education and care for infants and toddlers, which was later introduced in the 10-year Strategic Plan by the Ministry of Education (White & Dalli, p.118). In China, the Guidance opinions on promoting the development of childcare services for infants and toddlers under the age of 3 were issued by the General Office of the State Council in 2019 (Liu et al., 2022).

1.4 Quality definitions in the field of infants and toddlers education and care

To have a quality experience at a centre-based care for every young child is a concern for parents, researchers, and policy makers. For example, in the Nordic countries, children go to daycare usually full-time, meaning five days per week, at least 6 hours per day. It makes a lot of difference if a child is put into a high-quality care centre, compared to a low-quality care centre. In the area of infants and toddlers' education and care, quality means process quality and structural quality (OECD, 2018). Process quality refers to infants and toddlers' daily experiences with teachers/educators, peers, and parents (Cadima et al., 2020). Structural quality means the basic observable infrastructure, for example, the material resources, the environment, and educator-child ratios (Cadima et al., 2020). Structural quality can be quantified. In the published literature, researchers tremendously focused on the process quality, which has a direct impact on children through the immediate interactions between teachers/educators and infants/toddlers (OECD, 2018). In this study, teachers' professionalism is one of the focuses. This is related to both process quality and structural quality. Teachers' education is a part of structural quality and interaction is a part of process quality. However, the quality of interaction is influenced by teachers' sensitiveness and responsiveness, and moreover, these characteristics are influenced by teachers' educational background (Garvis et al., 2013; Norris, 2010). Recently published articles by OECD (2020) recognise that there is a lack of skilled and well-qualified ECEC staff internationally (Li et al., 2022).

1.5 Americans Early Childhood Education and Care Development

Early childhood education is one of the essential parts of the education system of America. The motivation of the American policy in the field of early childhood was to have children home and spend time with their mothers (Miller et al., 2017b). With this purpose in 1935, Aid to Dependent Children (ADC) was established to provide support to low-income families and single mothers, in order to have them home to be with their children. Following those years until 1965, Aid to Family with Dependents (AFDC) was set up with the purpose of this program to include unemployed fathers as a legal part to get support. As we can see, AFDC was the extension part of ADC. In the same year, the Head Start program was created as a part of federal programs in 1965. Its goal was to serve 0-5 years children from low-income families in terms of health, and education and to help children ready for kindergarten. The initial design for Head Start was a six-week summer program, however, it turned out that was not

enough. A great many Head Start Programs started to run for the whole period of the school year later on. The Early Head Start Program was set up to begin to service children aged from birth to three years old in the year of 1994.

In 1990, the Childcare and Development Blocks Grant (CCDBG) was set up to increase the availability, affordability, and quality of early childhood services that are provided by the states. It is under the responsibilities of the Department of Health and Human Services in the United States of America. CCDBG is the main source of funding which is devoted to only supporting subsidies in the field of early childhood to those families who are rather low-income statuses. It serves children who are from birth to three years old. (US Early Childhood Policy: Towards a More Coherent Early Childhood Policy in the US). 2009-2017, under the period of President Barack Obama, early childhood education plays a main role in terms of federal policy and investment. In 2009, the National Association for the Education of Young Children (NAEYC) in America published a position statement on preparing early childhood professionals (Miller et al., 2017b).

In America's early childhood education field, the Abecedarian Project was one of the influential projects (Campbell et al., 2002). It was launched in 1971 and is a study with a longitudinal view of the advantages of intervention in the settings of early childhood education and care. 104 participants took part in the program and were assigned randomly into two groups, the control group, and the treatment group. According to the result of this study, it showed the treatment groupers had significantly more years of education, were more likely to be involved in a university or college that offers a four-year higher education, and presented a low possibility of being pregnant at the age of teenagers. Children in the treatment group also showed reading and math skills were better, and these skills continued into later life. The Abecedarian Project showed us findings that a positive correlation between early childhood education programs and later academic skills (Campbell et al., 2002). Due to the enormous impact of this project, Australia also launched the Abecedarian Approach research project.

The Individuals with Disabilities Education Act (IDEA) is also worth mentioning. It is a law that ensures a free-of-charge proper public education available to all entitled kids with special needs throughout the nation and makes sure special education and relevant services to them (Miller et al., 2017). Early Childhood Education: Young Adult Outcomes From the Abecedarian Project. For those children who are from birth to two years old with special needs, their families are provided early intervention services under IDEA PART C. Those children or young ones who are from three to twenty-one years old, are offered special education and services under IDEA PART B (Miller et al., 2017).

From the historical perspective of early childhood education in the US, the focus has shifted over the years. From the focus on serving aid to a poor single mom or two-parent families in which the father was unemployed to stay at home to raise their children to encourage parents to work, to monitor the teacher qualification at the early education centre to guarantee the quality education and care the children receive. It is not hard to understand the current concentration in the early childhood education field.

1.6 Infants and toddlers' education and care in the context of China

In the context of China, early childhood education and care is commonly concerned with ages from 3-6 years old. It is called *youjiao* in Chinese and it refers to the children who receive education and care at kindergarten, both in public and private settings. Education and care for children who are under three years old is called *zaojiao*, which is commonly run by private business owners. In 2019, the Chinese government published a public statement, *the Guidance opinions on promoting the development of childcare services for infants and toddlers under the age of three* (Liu et al., 2022). In this policy, the government recognises the importance of offering quality care services to zero to three years old, and infants/ toddlers' caregivers are considered professions, which require formal higher education. Furthermore, Chinese top policy makers indicate that this type of occupation is urgently needed in

China. This policy is seen as a historical moment for Chinese infants and toddlers. In Shanghai, the local government introduced a policy with an exclusive focus on zero to three-year-old children in 2020, *the First Three-Year Action Plan of Care Service for Children Who Are Under Three*.

1.7 Quality Infants and toddlers education and care in the context of China

In 2021, a study was conducted by a group of Chinese early childhood educational researchers. It was found that the quality was low in the field of infants and toddlers' education and care in the mainland of China. There was and is no professional national standard for teachers who are with children aged under three. In China, there are three relevant qualifications for infants and toddlers education: preschool teacher certificate, nursery governess certificate, and baby care educator certificate. However, the study showed that none of them was and is completely appropriate for a child-care centre (Hong et al., 2022). Presently, the market economy is leading in China in many aspects, including education. Infants and toddlers' education and care is profit-oriented and certainly, it is problematic. There is no national accreditation to ensure teachers' quality with the youngest ones. Quality education and care for the little ones in China is still at a very initial stage.

1.8 An overall view of childcare service in China

Childcare service for children who are under three in Chinese was historically called “*Tuo er suo*” and was characterised by the “unit welfare system” (Hong et al., 2022) at the very beginning stage of early childhood education and care in China. Before the People's Republic of China was established, *tuo er suo* already existed. According to the statistics, there were 119 *tuo er suo* in the mainland of China before 1949, the same year as the People's Republic of China set up. By the end of 1951, there were 14435 *tuo er suo*, increasing almost 113 times compared to the year 1949. During the period of planned economy, *tuo er suo* was mainly under the responsibilities of the central government. The main purpose was to offer infants and toddlers care services rather than education, and another purpose was to support and help women back to work. In 1953, the Draft Amendment to the Implementing Rules of Labor Insurance was issued in the People's Republic of China. In the file, number 51 stated: if there are more than twenty female workers who have children under four years old, employers should themselves or in cooperation with other employers set up *tuo er suo*. Under the planned economic policy, *tuo er suo* and kindergarten received a lot of government funding. This situation was stable until the Ten Years Cultural Revolution. Educational perspectives were questioned by the first leader of China, Mao Ze Dong. In 1979, after the revolution ended, *tuo er suo* was again the attention of the central government. The State Council of the People's Republic of China set up a group of workers who specialised in care services for infants and toddlers in 1980 and this was the first and the highest agency from the central government level focusing on infants and toddlers. The National Health Commission issued a file of regulations about *tuo er suo* in urban cities, giving the agency a new mandate which was not only to help women back to work but also to assume greater responsibilities to educate children who are under 3 years old. However, China has been through a period of economic reform, transitioning from a planned economy to a market economy in the 1990s (Hong et al., 2022). In 1988, an Opinions About Improving Education on Infants and Toddlers dictated that early education and care was not part of compulsory education, meaning that parents needed to start paying a fee. In 1992, according to the statistics, there were 10268 *tuo er suo* in China, which was less compared to the year 1949. In 1996, the Central Government issued a public statement about the Children's Development Plan in China, meaning kindergarten should be run by the society. From this period, *tuo er suo* dramatically decreased and shrank (Hong et al., 2022). The central government focused on the age over 3 and put more funding on this age. In 2010, state-run and company-run *tuo er suo* almost disappeared. As Yang indicates, the ratio dropped to zero in 2010 (Hong et al., 2022).

Luckily, the Central Government has noticed this huge gap and Chinese citizens hesitate to have more babies even with the “encouraging” policies in place since there are few resources available to take care of infants and toddlers. In 2019, the Chinese government introduced a policy to focus on the age under three years old: the Guidance on promoting caring services for children who are under three years old. In this policy, the government stated clearly the need for societal help to set up childcare centres, in other words, market-driven initiatives. The policy is meant to encourage the kindergartens to expand their services to include two-year-old children and to provide hourly/part-time/full-time childcare services. This is the first time the government to pay attention to this specific age group of children since 1990.

1.9 Birth-control Policy in China

Regardless of HUKOU (the system of household registration required by law in the Chinese government that decides where you live), a two-child policy was introduced in 2016 in China to replace the one-child policy which had been in place for almost 40 years from 1979 to 2015, one of the greatest social experiments in history. In 2021, the third-child policy was introduced by the Chinese Central Government due to the aging of the population. However, most Chinese parents are quite unlikely to have a third baby. According to the data from the OECD (2024), China experienced a slight increase in the fertility rate from 1.67% to 1.77% in 2017 under the influence of the second-child policy. However, since then, the fertility rate dropped dramatically to 1.16% in 2021 (OECD, 2024). The main reason is that the young Chinese population lacks time and money. State subsidised childcare for under three is almost non-existent in China.

1.10 Chinese Family Structure

“4+2+1” or “6+1” family structure is the mainstream in the context of China. With the impact of the one-child policy, it is common for six adults to help with raising up one child. As an example, two adults who were born in the 1980s and “allowed” to give birth to only one child (before the two-children policy in 2016), would typically receive assistance from four grandparents to help raise their child. A two-child policy was introduced in 2016 which ended the historical period of single-baby policy. Under the influence of the new birth control policy, “6+2” family structure is getting slightly more common. Social and economic changes in current China have significantly improved people’s life, before Covid time. Nowadays, young Chinese parents receive more education compared to the older generations. With a better education background, more and more parents recognise that a quality daycare is important for their children, especially for those who still have one single child. They have noticed the importance of peer interactions, and this is one of the motivations for them to look for a trustworthy and qualified daycare.

1.11 996 and 007 work style in China

Before going further, to gain an understanding of the workload for normal Chinese workers, it is helpful to address the meaning of “996” and “007”. These two emerging terms literally first refer to workers who work with online services, for example, e-commerce such as Alibaba. “996” means that people work from 9 in the morning until 9 in the evening for 6 days a week. They are allocated to have one hour or even less to have lunch and dinner. “007” means a more extreme work style: 7/24, no rest on duty. It is well-recognised that these work styles are not legal and forbidden by the Labour Law in China. However, this is still the reality for many Chinese workers, and it is an open secret that Chinese workers work extra without getting paid. As an example, workers usually have company meetings and work training after office hours. From this perspective, workers who have infants and toddlers who are under three years old often need their grandparents to help with daily life. This also causes another social phenomenon. For the workers who are from rural areas, if they can afford, grandparents often move to

the city where they stay to take care of their grandchild, and otherwise, the workers' children often stay with the grandparents in the rural area which leads to the reality that parents barely see the children for longer periods of time.

1.12 Chinese two unique teacher promotion systems: *Bianzhi* and *Zhicheng*

In order to have a better understanding of infants and toddlers teacher's status in China, *bianzhi* and *zhicheng* are very significant societal norms because they offer teachers payment and social welfare benefits given by the government, together with a societal status in the field of profession and the whole society (Hu et al., 2016).

Bianzhi refers to the teachers who are involved as public servants of government with a permanent position in the workforce (Hu et al., 2016). According to Brødsgaard, "the establishment" is the straight translation from "*bianzhi*" and it refers to the number of established posts in a unit, office, or organisation (Brødsgaard, 2002). The system of *bianzhi* covers millions of workers who receive salary from the state (Brødsgaard, 2002). *Bianzhi* often allocates in a Party or government administrative organ *ji guan*, a service organisation *shi ye*, or a working unit *qi ye* (Brødsgaard, 2002). This system is at the heart of the Chinese bureaucratic structure.

Bianzhi is a title, together with social status, honour, better social welfare, stable income, and higher pension. So, when a teacher is given *bianzhi*, people usually think he/she manages to have a job like "eat imperial grain" which can be understood in Chinese as *chi huang niang* (Brødsgaard, 2002). It is a guaranteed job if you have *bianzhi*, meaning you will not be dismissed unless you make some serious mistakes.

Public school is part of a service organisation (Brødsgaard, 2002), such as public middle school, public primary school, and public kindergarten. In the public school system in China, teachers who pass relevant tests can have *bianzhi*. Quite often, this series of tests is rather competitive. It is not hard to understand that when you succeed in owning *bianzhi*, you have a permanent job. After some years, too many teachers (also the same phenomenon at the working unit and government administrative organ) have *bianzhi* which causes the government great economic pressure. The government has to restrict *bianzhi* in labour market. In some local governments, they have stopped giving *bianzhi* to develop a new policy called "*zhi chu bu jin*", meaning a *bianzhi* will be given to a new worker when an old worker retires.

Without *bianzhi*, a teacher job is a temporary job, together with low social status, relatively low salary, low pension, and such. Teachers tend to feel less secure without *bianzhi* and it is not surprising to see a high turnover in the private school system for those teachers who do not have *bianzhi*. However, *bianzhi* does not exist in the infants and toddlers' education and care service centres, because they are privately run centres. Teachers working with this age group of children are neglected.

Zhicheng refers to the teachers who have reached a certain level in the tiered professional rankings, for example, teaching experiences, professional training, ethics, level of education, research competencies, and such (Hu et al., 2016). It is overseen by the Ministry of Human Resources and Social Security of the People's Republic of China, and it is a system of hierarchy. In the field of evaluation of teachers' qualification levels, there are five levels in the *zhicheng* system. Teachers need to successfully meet the relevant evaluation criteria in order to be awarded *zhicheng*. It usually starts from the bottom level to goes upwards. For example, level-one *zhicheng* candidates must submit a paper on teaching in the area of early childhood education (Hu et al., 2016). Having a teacher certificate is the foundation if you would like to have *zhicheng*. The higher *zhicheng* you have, the more pay you get, the better social welfare you have, and the higher social status you receive.

As previously stated, *zhicheng*'s evaluation is based on teachers' certificates. In the field of infants and toddlers' education centre, there is no way to have *zhicheng* due to this area does not belong to the teachers system. All in all, *bianzhi* and *zhicheng* are two variables that tend to impact the quality of centre-based educational care in the context of China.

A public statement called the National Vocational Qualification Directory, was issued in 2021 by the Ministry of Human Resource and Social Security of the People's Republic of China. According to the statement, teachers' qualification is placed number one in the first part of this professional technical qualification. Qualification for the infancy service provider is also included and overseen by the National Health Commission, under the Law Maternal and Infant Health Care Law of the People's Republic of China. From this national statement, it is clear that teacher is perceived on top of Chinese social status and great attention starts to be put into the aged group who are under three years old.

1.13 Challenge

Neoliberalism is a type of governance that supports market-driven capitalism and consumerism, instead of central government investments and responsibility (Rogers et al., 2020). It values free market economics and places people into a system of competition. In China, the education business is blooming due to the competitive education system. For students who are at school-age, they have different types of extra classes after school, for example, Maths, English, Physics, Chemistry, and so on. Students have to attend these private classes in order to learn more and to learn faster compared to their peers. Almost every family who has children must face this educational pressure, especially in rather developed areas, like Shanghai, Jiangsu Province, and Zhejiang Province. Infants and toddlers care services are almost non-existent in terms of the state-subsidised child-care centre. Parents with young children start to realise the problem that children are more self-centred and spoiled if they have been taken care of only by older generations, grandparents. Parents prefer to put their kids into care centre. With this specific need, private care centres were born by educational business owners. However, this is still a rather new area. The quality remains questionable. Centre-based daycares are available for the ones who can afford them, and this will result in a bigger gap between rich and poor, urban and rural. So, I argue, that the educational system with a focus on infants and toddlers needs the government to target serious investment in early childcare centre, especially for children under three years old. To make this more available, affordable, and qualified and to ensure the future of China.

1.14 Professional identify as infants and toddlers' teachers/caretakers in the context of China

To have a societal recognised identity is important in Chinese society. China has been under the rooted influence of Confucian philosophy for centuries (Rao et al., 2017). Regarding the Confucian educational concept, there should be social order, and importance is placed on respect for the teachers. In this sense, teachers as professionals, have been receiving a great deal of respect from the whole society, parents, and students. Teachers in China have relatively high social status, attractive pay, and secure work conditions. Teachers with *zhicheng* and *bianzhi* are considered golden jobs. However, Chinese society holds a more respectable attitude towards teachers who work in primary school and onwards. Teachers who work with infants and toddlers, are considered as nannies, caregivers, babysitters, and temporary moms and do not receive the same recognition. They are considered playmates with infants and toddlers. What they need to do is to change diapers, feed babies, play with them, and put them to bed. There is no educational aspect. Anyone can do it without any specific training. Parents' attitudes also affect the teachers' identities. This sad phenomenon occurs for many reasons, one of them being that there is to date no bachelor's degree for teaching infants and toddlers in the Chinese higher educational system. This job is undervalued and underestimated.

Having a professional identity, such as doctors or teachers at primary school and middle school, can bring people together to have a better understanding and better respect from people who are from outside. The call for a title is more than necessary, especially for teachers who work with our most vulnerable youngest ones. It is also the same case in Korea and in other countries (Park Soyeon et al., 2014). I argue that for infants and toddlers' teachers, the professional identity needs to be recognised by the central government in China first. This role is not fixed, but rather multifaceted and moving, a continuous process of identification (Tadeu & Lopes, 2023).

1.15 Chinese infants and toddlers teachers have their own uniqueness

Confucian values influence Chinese families and teachers, regardless of where they lie (Rao et al., 2017). Confucianism evolved more than 2000 years ago and has gone through significant changes. The key value of Confucianism is about how to learn to be human. Confucianism has been questioned as promoting power and silent obedience, and it is a teacher-centred approach. Confucius was a supporter of holistic education. Both family and schools are considered as the focus where key values are implanted to the next generation.

Under the impact of Confucian philosophy, Chinese teachers tend to be more teacher-centred in their practice, even without any intention, rather than child-centred approaches. Infants and toddlers are a special age group, they are unlike older students, for example, primary or middle school students. They need to be offered more freedom. They are the decision-makers, and they need to explore more by themselves, to communicate in their own way. In this sense, Chinese teachers who work with infants and toddlers need to be trained in this specialty. More importantly, Chinese teachers need to let babies be babies and to guide infants and toddlers with invisible educational purposes. Teachers also need to try to be less powerful and to fit into a role that is more supportive without directive orders. From these perspectives, it is more than necessary to put a special focus on this age when it comes to pre-service teacher education.

1.16 Key contents from the General Office of the State Council's public statement in China

In 2019, the Guidance opinions on promoting the development of childcare services for children under age 3 were issued by the General Office of the State Council in the People's Republic of China. It was seen as a turning point for Chinese infants and toddlers who are aged from birth to three. In this section, I will highlight several contents from the public statement to have an updated and deeper understanding of current education and care for infants and toddlers in China.

Four parts consist of this statement: Overall Requirement; Main Task; Ensuring Effort; Organise the Implementations. Four basic principles are included in the first part "Overall Requirement". Family-oriented and childcare service-supplementary is ranked as number one of these four basic principles. The government emphasised family as the main responsibility giver to take care of the youngest ones.

Main Task is the second part of the statement which is also the key part. It is stated clearly that through the visit-home instructor promotes family influence on children's development, together with the tool of the Internet. The government encourages a market-oriented approach and local government subsidies to set up childcare service centres. Service centres should be registered under the Government BianZhi Department or the Civil Affairs Department if it is non-profit care centres. If the care centre is profit-oriented, it should be registered under the Administration for Market Regulation. Employers are encouraged to organise childcare centre by themselves or to collaborate with other relevant units to offer their employees care services at the workplace, and this childcare service should be seen as a part of social welfare. The kindergartens are also encouraged and supported to expand their service, for example, to enroll two to three years old toddlers, if they have relevant conditions and resources. In the

last part of the Main Task, the importance of strengthening infants and toddlers' caregivers' professionalism and the construction of standardisation is highlighted, as well as the importance of respecting and following the development of infants and toddlers to develop and improve standardised systems for the childcare service.

Ensuring Effort is the third part of the guidance. It highlights the market as the decisive role in the allocation of resources and encourages the local governments to support with setting up of childcare centres by providing land and reducing the rent. The guidance also requires tertiary education (universities, colleges, and vocational colleges) to set up majors related to infants and toddlers care services and to train professional talents for the youngest ones as soon as possible. Infants and toddlers' professional caregivers should be included in the urgently-needed-personnel.

The last part is "Organise the Implementations". It emphasises that all different levels of government should improve the awareness of infants and toddlers care service. In China, the National Health Commission is the main department to oversee the care service for infants and toddlers, together with all the other departments.

Above, it is an objective translation from a Chinese public statement for infants and toddlers' care. It is not hard to see that the Central Government is committed to setting up and improving childcare centre services for those who are under three. Also, it is cheerful to see that infants and toddlers start to be seen and heard by the Central Government. 2019 was a bright year for the Chinese youngest ones and this guidance was/is the first and initial step for the journey of ITEC. However, from the public statement, education towards infants and toddlers is a missing part. It is a hidden message that care is prioritized over education for children aged 0-3 in China. Needless to say, this should be reconsidered. Education and care for very young children is not a dichotomy, they should be united.

1.17 Introduction Summary

When an infant or toddler is mumbling, moving, crying or even screaming, the caregiver or educator is responding with an appropriate look, words, hugs, and gestures. This process is important for children's development. Neural connections are built and strengthened in the infant or toddler's brain during these interactions. Given the foundation of the first three years, the need for responsive relationships in a variety of settings, starting in fancy, cannot be overestimated, by Harvard University (2020).

Infants and toddlers education and care is a global attractive phenomenon. In the last few decades, universal ITEC (infants and toddlers education and care) to every child has changed to focus on how to establish the quality and assure the quality of the ITEC. A growing body of research has been published to address the quality of ITEC. Quality in ITEC means process quality and structural quality. According to previous research findings, process quality plays a more direct impact on the outcome for infants and toddlers. Children who are from birth to three years old are a part of preschoolers. However, this specific age group is undervalued and underestimated compared to children who are more than three years old. This paper is designed to research deeply from a systematic way in order to have a better understanding of quality with the specific group of children. All the selected papers are peer-reviewed. The previous scientific evidence can offer us a clearer picture of the meaning of quality.

Contemporary infants and toddlers' education and care in China is problematic and it is an area almost non-existent. With the introduction of the third child policy in China, the availability of quality ITEC is becoming urgent.

Chaper 2 Problem Statement

Early Childhood Education and Care is children's right. This recognise is reaching a stage of a global agreement. In New Zealand, infants were considered as citizens, this democratic philosophy was reflected in the *Te Whāriki* in 1996 - a public statement which was the first time to acknowledge babies were learners from birth, issued by the Ministry of Education. In 2011, the Prime Minister's Science Advisor, Sir Peter Gluckman presented research about the importance of early childhood: *the period of childhood is critical in which the self-control established* (Rockel, 2014). In Portugal, 11 recommendations was issued with a focus on strengthening infants and toddler's education and care. Acknowledging education is considered a young children's right was ranked as the first recommendation out of the 11 recommendations (Vasconcelos, 2013).

With a scientific view from Harvard University (2020), healthy development from birth to three provides a foundational platform for children's future lives, such as educational achievement, school readiness, and language development. Also, it provides the basic and key platform for economic productivity, low job turnover, and low criminal rate for the whole society. The Centre on the Developing Child from Harvard University proved this correlation. Infants and toddlers' healthy development through time with new powers of movement with curiosity (White & Dalli, p.26).

To ensure and maximise infants and toddlers' health development, teacher quality plays a pivotal role at the centre-based childcare. Teachers and very young children's daily interactions is seen as one of the main process qualities which have the direct influence on children's development (OECD, 2018). A great body of research has found evidence that pre-service teacher's level of education is connected with teachers' interactions with infants and toddlers (Garvis et al., 2013; Manning et al., 2017; Norris, 2010).

Under the contemporary ECEC, infants and toddlers' education and care is commonly mixed with children who are more than three years old. Infants and toddlers, they are not the same as other older aged group children. It had long been argued that the least qualified staff were often assigned to work with children who are under three years old in the settings of mixed-age (White & Dalli, 2020).

Three points of perspectives will be discussed in this chapter: the children who are from zero to three years old and the children who are more than three years old are being mixed; higher institutions teacher education programs in the mainland of China; Western-like infants and toddlers' pedagogy is prevalent in the mainland of China.

2.1 0-3 years education and preschool education are being discussed inclusively

With regards to the findings from Harvard University (2020), neuroscience research emphasise that social experience supports healthy brain development. So, the most important development years do not happen in preschool ages, but during the first three years (Scientific Council on the Developing Child, 2004).

Early Childhood Education and Care is an uneasy, complex, multidimensional, and interdisciplinary area. Centres on the Developing Child at Harvard University has illustrated an age-appropriate curriculum that provides engaging activities designed to achieve early defined goals (2020). Preschool education, meaning the age group of children from kindergarten who are about to be ready for primary school, in this case, the curriculum is designed with some specific focus on school readiness,

mathematical skills, and such. With children who are from 0 to three years old, they are in the development age of brain, intellectual, emotional, and behavioral. They reach out and communicate with their facial expressions, body language, and such. Kids can be vulnerable when their intentions are misunderstood (White & Dalli, n.d.). Designed curriculums for this group of children and teacher education ought to contain different focuses compared to the kindergarten age group.

However, it is more than common to discuss these two groups of children into one group: 0 to 8 years old early childhood education. UNICEF defines Early Childhood Education Learners' age as between 0-8 years old. OECD includes 0-3 years old education as a part of Early Childhood Education and Care, meaning 0-8 years old. In the United States of America, Early childhood is typically defined as 0 to 8 years old, according to the National Association for the Education of Young Children (Schachter et al., 2022). When I search the term "ECEC", a great body of studies has focused on children who are more than three years old. For example, a study titled "*We Are More Than a Daycare*": *Reported Roles and Settings for Early Childhood Professionals and Implications for Professionalizing the Field*. It can be naturally interpreted that this study had a focus on the age of 0 to 3 years old. On the contrary, it had a focus on the age from 3 to 5 years old after a comprehensive reading.

In the discourse of preschool education assume that 0-3 years infants and toddlers are a part of preschool education. Teachers who graduate from higher education are "naturally" recognised as very capable of teaching 0-3 years children. But in reality, graduates even feel insecure about holding a baby because they have never received any practical training with a focus on infants and toddlers (Horm et al., 2013). Also, in educational research, it is evident that so far we have no enough concentration with a specific focus on teacher education in the field of 0-3years kids (Horm et al., 2013).

I argue that we should not take it for "granted" that infants and toddlers could be easily taught if educators hold a degree or a diploma in the field of preschool education, and a clear age definition is one of the most urgent issues that need to be addressed in the field of ECEC world.

2.2 Higher institution teacher education programs in the mainland of China

Early Childhood Education and Care include three main parts in China: 1. From birth to three years old is called a nursery centre; 2. three to six years are known as kindergarteners; 3. Five to six or six to seven usually is known as one-year preschool age which is often run within the primary school setting (Hong et al., 2022). In this thesis, we have the focus and only focus on 0-3 years old.

Before I go further, two Chinese terms need to be addressed in order to have a better understanding of ECEC in China: nursery centre (*zao jiao*) and kindergarten (*you jiao*). Nursery centre is an official translation from *zao jiao*. *Zao jiao* and *tuo er suo* (see the introduction part) share certain similarities, but not entirely the same. *Zao jiao* has more focus on education since *jiao* can be translated from education. *Tuo er suo* has a focus on care.

Zao jiao in Chinese means Early Childhood Education, meaning from birth to three years old. *You jiao* refers to children's education, the kindergarten age, from three to six years old, which is the focus of most current existing literature. In the context of China, zero to three years old professional teacher education from university level - tertiary education is a missing point in the higher education system. According to the Ministry of Education of the People's Republic of China, there are no bachelor's or onward degrees offered with a specific focus on the age of children who are from zero to three years old in the field of teacher education (Hong et al., 2022). On the contrary, it is a mandatory requirement to have a teacher certificate in order to work at the kindergarten, namely, a teacher for *you jiao*.

Teachers at the nursery centre (*you jiao*) are often young, and outgoing, and there are no requirements for accreditation. To be more specific, there is no such teacher certificate exists for the nursery centre.

In this workforce, teachers change jobs frequently. Their professional status is low, together with low pay, longer working hours, and low social welfare. All the teachers at the Early Childhood Centres work as temporary workers. Meanwhile, infants and toddlers education market (*you jiao*) has been established to meet the urgent needs of parents. Centre-based is one of the most common ways to give education to the youngest. However, education gives relevant knowledge background remains uncertain. But one thing can be sure: it is not mandatory to have a teaching certificate to be a teacher for 0-3 years old children, for the time being in the mainland of China.

2.3 Western philosophy of pedagogy is leading in Early Childhood Education and Care in the neoliberal market in China

Since the open policy installed in China in 1979, China has been under great influence by western educational conceptions. Famous educational influencers like John Dewey, Lev Vygotsky and Jane Piaget, and so on have tremendously influenced Chinese educational philosophy. However, it is undeniable that mainland China has its own history, culture, and beliefs. Confucian and Daoist educational ideas have played a fundamental role in Chinese education settings. Confucius was a forerunner of holistic education (Rao et al., n.d.).

The Chinese central government issued a public statement about *the Guidance on promoting care for children who are under three years old* in 2019 clearly ruled out the responsibilities from the top government level. Instead, it encouraged and emphasised that society and the market are the main responsibility to set up and support childcare centre for the youngest ones. This is one of the main systems of the neoliberal market. Private run *zao jiao* will be and is the main choice for parents. Under the neoliberalism, in order to have more clients, namely, parents. Reggio, Montessori, and such are rather popular in the private run *zao jiao* centre.

I am not arguing that we should completely give up Western educational perspectives. Globalisation is unstoppable. The relationship between global and local is reciprocal. The globalisation process is not needed to delete and replace. However, western educational ideas should not be put into Chinese society without changing them to local needs. *Ben tu hua* is part of the globalisation process (Brødsgaard, 2002). In the current established early education centre, using westerns educations idea seems likely a quite successful marketing strategy. But, in the long run, it might be questioned. There is a push toward incorporating western theories and pedagogies into the Chinese contexts (Rao et al., 2017).

Chapter 3 Theoretical Framework

3.1 Introduction

Infants and toddlers education and care quality is affected by teachers and children's interactions at the centre-based care, namely, process quality (Garvis Susanne & Pendergast Donna, 2015). With regards to the youngest ones' nature, the way they interact with teachers might be just a look, a gesture, and most of the time is wordless. In this sense, teachers' proper interpretation, sensitivity, and responsiveness play a crucial role, in order to give infants and toddlers a timely and appropriate answer. Teachers' professionalism has become apparent to have tangible and intangible influences on how teachers interact with the very young ones.

Teachers' professionalism is not an isolated term. It is multifaceted and affected by various factors, such as his/her own family background, relevant knowledge, practical experience, co-workers' relationship, relationship with parents, leaders' management, salary, societal norms, cultural beliefs, policy, and so on. Dallie holds similar opinions, as she wrote (White & Dalli,p.126):

Professionalism cannot work solely at the level of the individual; individuals need to be supported by a complete profession system.

In this study, the Ecology of Human Development by Bronfenbrenner(1979) is applied as the theoretical framework to guide the path. Bronfenbrenner was known as mainly focused on children's development, this chapter will offer a different view by using the ecological theory of human development, to have a better understanding of the new emerging status: teachers' professionalism with children who are under three years old.

Bronfenbrenner's work is transferable. His work is undoubtedly having an international influence. It is evident that the Head Start Program in the United States of America and the Sure Start Program in the UK has applied his theory as a framework. The concentration here, in this study, is on teachers' professionalism, not on children. Teachers' professionalism is not an independent variable or a remote event, it constantly interacts with others: policy makers, parents, and higher institutions system. Also, according to Dallie, infants and toddlers' educators' professionalism was not interpreted as a still quality within himself/herself but rather exists and develops within interactions with others (White & Dalli, 2020).

3.2 Bronfenbrenner's theory about ecological system

In Bronfenbrenner's work, five layers of systems consist of his ecological system theory: microsystem, mesosystem, exosystem, macrosystem, and the last system - chronosystem which was added later in his work by himself. He asserts that *human development is a product of interaction between the growing organism and its environment* (Bronfenbrenner, 1979). When comes to teachers' professionalism, his description can also be interpreted as professionalism development as a product of interactions within the ongoing itself and its environment.

At the beginning of his theory, four systems were proposed to conduct a nested arrangement, like a Russian doll: microsystem, mesosystem, exosystem, and macrosystem. It is important to notice that child is put at the centre of ecology system in his theory, even though he added another significant system - chronosystem in 2005 to the previous four systems theoretical framework. Child plays a critical central role in his work.

Microsystem refers to the immediate surroundings in which individuals directly interact and experiences daily life. These surroundings are the closest to the individuals and have the most immediate and direct impact on their development, as they provide the context for socialisation, learning, and daily experiences. Mesosystem consists of the interconnections and interactions between different microsystems in an individual's life. The mesosystem emphasised the importance of the connected systems and recognises these surroundings are not isolated, rather, they interact and have an impact on each other, shaping the individual's experiences and development. It is an extended system to microsystem. The exosystem highlights the importance of the indirect surroundings' influence on individuals' development. It refers to social contexts in which individuals do not directly participate but still have an indirect impact on their development. Changes in the ecosystem can influence individuals' experiences within their microsystem. The larger and broader system is the macrosystem. It refers to the societal, cultural, and political environment in which individuals live. This context can include cultural norms, and beliefs such as laws, customs, and social institutions that characterise a particular society. The macrosystem presents the broadest level of surrounding influence in Bronfenbrenner's theory.

Bronfenbrenner continued working on his theoretical framework. In 2005, a new system was added: chronosystem. This system refers to the dimension of time and how surrounding influences change over the course of individuals' lives. It highlights the importance of taking developmental processes into account within the context of time and history. It represents the changes and transitions that occur over time. Individuals' development and experiences evolve through both historical events and individual life events.

3.3 Relating to the current study within the ecological system

In this project, teachers' professionalism is put at the centre of Bronfenbrenner's ecological system theory, rather than a child's development. Infants and toddlers' teachers are present in a physical way and interact with other professional workers, with zero to three years old children and also with parents, as it is known the microsystem; the mesosystem, in this study refers to the relationship between professional teachers, and the connections between situations, the connections between parents and professionals, parents connections within the early years settings; the exosystem refers to the professional teachers have no direct contact or influence but indirectly affected by decisions made by local authorities / training providers or affected by two leaders different decisions from the activities; the macro system is a broader picture, such as ongoing research, government departments, international perspectives, government policy, social norms, social values and countries cultures about how things should be done; the chronosystem means the change or development over time from the socio-historical context for practice, in this system it can help us to grasp a better understanding of the development of the early professionals is not unmoving but change or evolve all the time.

3.4 Summary of the theoretical framework

Bronfenbrenner's ecological system theory is applied as this paper's theoretical framework. Teachers' professionalism is located at the heart of ecological theory. The different level has a visible or invisible, direct and indirect impact on teachers' professionalism. Teachers' professional practice is limited and constrained without a supportive policy infrastructure, although it is creative and resourceful in the direct environment of their early childhood setting (White & Dalli, p.117).

I argue that infants and toddlers' teachers' professionalism cannot exist, develop, or evolve without promising policy support as a base, especially in the context of China. China is a country that has its own specialty. The People's Republic of China is governed and ruled by one party, the Chinese Communist Party. Political influence is embedded in almost every part of individual Chinese citizen's life, the same as teachers' professionalism in the settings of infants and toddlers. Under a one-party governed country, policy from the central government plays an even more influential role. In this sense, the Chinese Communist Party as the macrosystem, should step in and take more serious considerations and investments in order to improve the quality of infants and toddlers education and care.

As Dallie stated, especially with early childhood professionalism is, involved in local contexts, visible in interrelation connections, political in the surroundings, and including many levels of knowledge, social norms, and have the impact from the broader picture (White & Dalli, 2020). Professionalism is an ecology, and a supportive infrastructure of policy is important for those who work with children aged 0 to 3 years old (White & Dalli, p.126). Again, I argue that in China, the Central Government plays a leadership role, and should invest seriously investment in the settings of infants and toddlers, together with policy support, for example, to establish BA degree teacher education with a focus on zero to three years old from higher education. This will fundamentally change the whole picture of teachers' status who work with the youngest ones.

Chapter 4 Literature Review

Carmen Dalli found three themes in defining professionalism within the field of teacher education and care towards the youngest ones: a clear pedagogical style; specialisation knowledge and practices, and cooperative partnership (Dalli, 2008). According to her, New Zealand is the leading country in terms of professional early education and care workforce. In 1986, New Zealand was the first country to combine policy and administrative responsibility for childcare and preschool into the Department of Education (Dalli, 2008). In 2002, a 10-year plan for early childhood education (Ministry of Education) was issued, *Pathways to the Future*, Nga Huarahi Arataki has strengthened the setting of early childhood education as a part of education (Dalli, 2008). This plan was in line with *Te Whariki* in 1996 (Dalli, 2008), which ensured the child's right to be seen as a learner from birth, and also infants and toddlers education and care were seen as specialised (White & Dalli, n.d.).

Although, New Zealand is one of the first countries to recognize the importance of professional teachers in the context of infants and toddlers. However, recognition and reality are not the same. Still, it is not common to place specialised teachers or professional teachers with the youngest ones. This is a rather universal problematic phenomenon in Australia, Korea, China, Italy, Greece, Canada, China, and other countries (Knight, 2023; Lazzari et al., 2015; Liu et al., 2022; Park Soyeon et al., 2014; Rentzou, 2024; White et al., 2016; W. Yang & Lim, 2023). The youngest ones are often put with the least qualified teachers.

Susanne Garvis and Donna Pendergast found in the State of Queensland in Australia, a greater focus was put on children who were more than 3 three years old in teacher education, while those aged under 3 years old stated a low focus. This finding was from 25 pre-service teachers' interviews who were going to finish the study and go into the relevant field after early childhood specialisation education (Garvis Susanne & Pendergast Donna, 2015). In Australia, the Australian Children's Education and Care Quality Authority (ACECQA) is to oversee teachers' education programs, 80 days of placement is required for an undergraduate pre-service early childhood teacher; 60 days of placement is required for a post-graduate pre-service early childhood teacher. ACECQA has clearly stated how these days should be placed: a 10-day professional experience with children who are from birth to 2; significant days with children who are aged from 3 to 5; the rest can be with children who are aged over 5. Obviously, those children who are from three to five receive greater attention would send signals that are more important to teach 3 to 5 years old children, and less important to teach the youngest ones. This becomes evident that, from policy perspectives, the value of teaching from birth to two is not as important as older children (Garvis & Lemon, 2015).

Another study was conducted to have content analysis about 55 Australian early childhood teacher undergraduate education programs that were registered on ACECQA. From the findings, it turned out that 18 out of 55 programs offered pre-service practical experience with infants and toddlers. From the proportional perspective, 0-3 years old group of children are having a relatively low focus (Garvis et al., 2013). Same situation in China (Han, 2023; Hong et al., 2022; Hu et al., 2016; Liu et al., 2022; Zhang et al., 2022), Italy (Lazzari et al., 2015), Korea (Park Soyeon et al., 2014), Greece (Rentzou, 2024), Singapore (Wu & Perisamy, 2021), Canada (Knight, 2023).

In recent years, research and policy have been growing in the provision of early childhood education and care for the youngest ones who are aged from zero to three years old. Quality is one of the main attentions. Process quality and structural quality, two are the definitions of quality in early childhood

education and care, including ages from zero to three years old. Structural quality refers to the infrastructure (Schleicher, 2019). In the provision of early childhood education and care, this quality refers to the staff-child ratio, group size, and staff training (Schleicher, 2019). Process quality refers to children's experiences (OECD, 2018). In the field of early childhood education and care, it refers to the experiences of educator-child interactions which are considered the most relevant quality dimensions (Cadima et al., 2020).

There is a growing body of research showing that pre-service qualification is linked positively with quality interactions between educators and children (OECD, 2018). Educators' education plays a key role in the process of interactions with infants and toddlers. A meta-analysis was conducted by several researchers in 2017 (Manning et al., 2017). They have analysed 44 eligible studies, and 58 eligible independent samples. The findings showed that 50 out of 58 samples had a positive relation between teachers' qualification and overall ERS ratings, 26 out of the 50 independent studies samples showed significant correlation, including in areas like language and reasoning. Moreover, another study was conducted by a group of researchers, their findings suggest that a teacher who holds a university-level degree might play a more important role in infants and toddlers' language development and this can then help teachers to be more cautious and encourage the youngest ones to explore and express (Barros et al., 2018). While some papers have put attention on the teachers' level of education, some others have put a specific focus on teachers' specialised education with children who are under three years old. They suggest that a specialised knowledge and practical experience with infants and toddlers are crucial to high process quality (Garvis et al., 2013; Norris, 2010).

However, some other studies show the opposite. A study carried out by a doctoral student has shown that very few significant and meaningful correlations between children's outcomes and educators' early childhood specialisation (Nocita, 2021).

Teachers' qualification is a part of a teacher's professionalism. Professionalism is not an isolated player. According to Dalli's perspectives, teachers' professions are a constant reconstruction which affected by policy. In order to increase awareness about teacher professionalism among ages 0 to 3, policy plays a crucial part. The policy is never far from practice (White & Dalli, n.d.). Policy can have a positive and negative influence on children's lives. Introducing higher teacher education within the field of early childhood education and care is a priority policy.

Over 90% of Chinese women who are aged 25 to 55 have involved in the job market under the development of the social economy (Liu et al., 2022). "Family-oriented and childcare service-supplementary" is the foundation principle in China (Hong et al., 2022). The general office of the State Council issued the Guidance opinions on promoting the development of childcare services for infants and toddlers under the age of 3, stating that the basis principle should be continued. This needs to be discussed more.

In China, childcare services had a low degree of socialization. According to the data from the National Health Commission of the People's Republic of China in 2019, 77.7% of Chinese urban families, and grandparents are involved in raising their grandchildren from birth to 3. A college education is a professional education with a shorter duration than an ordinary undergraduate education for a bachelor's degree. Public childcare service is a citizen right. Parents are calling for comprehensive, scientific, and systematic child-care services for 0-3 years old infants and toddlers (Liu et al., 2022).

In China, so far there are no national standards for professional teachers with infants and toddlers age group (Hong et al., 2022). This study aims to fill in this gap from previous relevant research to present a scientific perspective on professionalism in teacher education with children who are under 3 years old.

A higher quality process quality classroom tends to be associated with fewer behaviour problems, and better cognitive, and social skills (Manning et al., 2017). For infants and toddlers' education and care, it is more appropriate to a playcentre, rather than the classroom. It is against their nature. Process quality, including developing opportunities available to children, and teacher-child and peer-to-peer interactions within the childcare centre environment. However, teacher-child interactions take up the most. Infants and toddlers, in this age group they more tend to play on their own, peer-to-peer interactions are not as much as teacher-child interactions.

The social aspects of interactions focus on how sensitive and responsive teachers are with respect to children's needs and cues. The instructional features of interactions focus on teachers' behaviors that promote children's development and performance of skills. A responsive, sensitive, and proper behavior teachers are not naturally born, these features develop through training.

Chapter 5 Methodological Framework

5.1 Introduction

In this world, there are so many things or areas that appear to be the opposite in reality compared to what we assume in our minds. One of the famous Chinese philosophers, Lao-Tze stated similar opinions, it is important to be able to identify the dissimilarities between the real world and the assumed world. To take care of and educate infants and toddlers is like this. We think that it is our natural ability, and we have natural born competence to give the youngest ones the right care and education. We also think that babies are babies, they are incompetent, they only need to be fed, helped with diapers, and put to sleep in a soothing way, and it is certainly too early to educate them. We assume that a teacher who holds a degree of doctor in philosophy, he/she undoubtedly can be an educator with infants and toddlers. However, this is not the case. A group of pre-service teachers who graduated from Early Childhood Education and Care programs in Australia showed insecurity, and uncertainty and did not feel confident when they came to the reality of teaching infants and toddlers (Garvis Susanne & Pendergast Donna, 2015). So, how to solve this problem and offer us reliable scientific solutions to it? The systematic literature review is to help answer this specific question. According to Petticrew and Roberts (2006, p.10), systematic reviews are especially valuable as a method of going through all the relevant previous evidence on a particular question.

5.2 Why systematic literature review is chosen as the research method to understand teachers' professionalism with infants and toddlers' education and care?

The literature review is to provide an overall understanding of a topic, and a relevant knowledge base, and help researchers or readers to identify the related theories, main findings as well as gaps in existing research. It should be thorough and easy to understand which precious relevant work has been done and which has not, but it is of less scientific evidence, to some extent.

A systematic Literature Review is one of the methods in the field of qualitative research and also is a type of secondary review that gathers together all the findings from the primary research (Kitchenham, 2004). SLR and traditional literature reviews are different. The former is systematic (Jesson et al., p.105). Systematic literature review is a form of secondary review with empirical evidence / limited bias. It is a research method to synthesize previous empirical findings, to locate the gaps in research with the purpose of having implications for future research, to offer a methodology in order to have a proper new research action (Kitchenham, 2004).

Teacher professionalism with infants and toddlers' education and care is growing, but it is still a rather new and immature area in the field of research and policy globally. In the mainland of China, teacher qualification does not even exist with children who are under three years old. With regards to reality, the current project is using a systematic literature review to synthesize relevant findings from previous primary research. In this way, it can provide Chinese policy makers and practitioners with a deeper and scientific understanding of teachers' professionalism in the age of zero to three years old education and

care. The age range in the context of China is undervalued and underestimated in connection with the teachers' professionalism at centre-based care. From the other countries' relevant policy and practitioners' perspectives, and combined with the Chinese own cultural background, the systematic literature review will provide us with some insights, ideas, guidelines, and implications for Chinese policy makers and practitioners regarding what is required as a professional teacher with infants and toddlers in China. As Petticrew and Roberts pointed out that systematic literature review provides robust, reliable summaries of the most reliable evidence for policy makers (Petticrew & Roberts, p.11).

5.3 What are the advantages and disadvantages of a systematic literature review?

The main advantage is that SLR offers information about the impact of a specific phenomenon across a broad area of settings and empirical methods (Kitchenham, 2004). SLR provides scientific evidence that some of the findings are transferable if the previous peer-reviewed papers by different authors, from different countries share a similar focus. In this study, there is no national standard requirement for those who are willing to work with infants and toddlers in China. Moreover, infants and toddlers' education and care are not even close to common in reality, in other words, it is under development. In this case, to search for relevant empirical evidence from the primary study, regardless of the countries, it is becoming advantageous to apply SLR in this project. It is of more scientific evidence for Chinese policy makers.

With regards to the disadvantages part of SLR, one is that I am the only researcher in this project, so it is impossible to cover all the relevant previous literature and it can also have the possibility to some extent of slightly biased understanding since there is no other researcher involved in this study to balance the opinions.

5.4 Process of Systematic Literature Review

This study mainly adopts David Gough, Sand Oliver, and James Thomas's method to perform a systematic literature review (Gough et al., 2017). SLR is defined as '*a review of research literature using systematic and explicit, accruable methods*' and '*the reliability of these reviews is critically important*' (Gough et al., 2017). What does this mean reliability? Evidence-informed decision-making. This method has proceeded through five steps. First, research questions were formulated. Second, keywords and terms were defined to start searching in the scholar databases which were decided. Third, inclusion and exclusion criteria were decided to give more clear and specific guidance for searching work. Fourth, quality and relevance appraisal to evaluate the selected study. Fifth, to extract data with regards to the research question.

5.4.1 Types of participants and settings

In this paper, two focuses are combined to search for relevant studies and perform the method of systematic literature review. One is the age, meaning children who are under three years old. One is the teacher professionalism or teacher qualification at the centre-based care. Search terms or keywords in combination with two focuses are: "teacher education with infants and toddlers", "teacher qualification in ECEC", "teacher professionalism with infants and toddlers", "teacher professionalism with babies" and "teacher professionalism with children who are under three years old".

5.4.2 Search strategy and the initial screen

This systematic literature review was performed by using Goole Scholar, Gothenburg University Online Library, and ERIC (Education Resources and Information Centre) search engine. Studies publicly available are included, regardless of country. In the stage of search, I typed keywords or key terms from

a base word stem, for example, “professionalism” was typed as “professionalism*”. This approach enabled relevant studies to be caught with fewer searches. I first started my search by using keywords or terms with time span from 2005 to 2023. It turned out 402 studies from the initial search. I then started to read the abstract of every study to decide on relevance with inclusion criteria. 354 studies were excluded from the first stage of reading by applying inclusion and exclusion criteria, see the following table with inclusion criteria and related rational reason.

Inclusion criteria	Reliable reason
<p>Language</p> <p>English is the only language in order to extract data.</p>	<p>1. It is impossible to translate from the original language into English, as the only reviewer.</p> <p>2. In the context of China, teacher qualification with infants and toddlers who are under three years old is a non-existent area.</p>
<p>Age focus</p> <p>Studies with the focus group with 0 to 3 years old is my only eligible age criteria, this could be defined as infants or/and toddlers, from birth to three, under three years old, from birth to 36 months old, and babies.</p>	<p>Infants and toddlers are different from preschool-age children in terms of cognitive development, verbal development, needs them and such. When it comes to pedagogy or education or care, children who are under three have their own special needs. Policies in different countries also recognise the distinctive of this age group.</p>
<p>ECEC setting</p> <p>Studies that are undertaken in the centre-based setting are included. Centre-based could mean different types: daycare centre, nursery school, preschool, and prekindergarten. Studies conducted in home-based settings are excluded.</p>	<p>Home-based ECEC and centre-based ECEC are not the same. This can be differentiated from different perspectives, teacher or caregivers’ qualifications, environment, ratios in terms of teachers and infant/toddler, and pedagogy. In reality, these two settings are under-examined differently when comes to quality.</p>
<p>Children’s outcome</p> <p>Studies that presented correlation between teachers’ qualifications and infants/toddlers’ outcomes are included. The correction could be positive, negative, or mixed. Infants and toddlers’ outcomes can refer to cognitive development, verbal development, academic readiness, and social-emotional development.</p>	<p>Teachers' qualification is one of the main predictors of early childhood education and care centre-based quality, namely, structural quality. Children’s outcome is affected by teachers’ professionalism, in this sense, this explains why teachers’ professionalism is important to explore and understand well.</p>

5.4.3 Study selection and quality appraisal criteria

All 48 studies were given full-text reviews, including every part of the study. 39 studies were selected after a whole paper review by adopting 12 quality criteria from the book (Gough et al., p.168):

- Are the aims of the research clearly presented?
- Are the objectives of the research clearly presented?
- Is the research design clearly specified?
- Is the research design appropriate for the aims and objectives of the research?
- Do the researchers provide a clear statement of the process by which their findings were processed?
- Do the researchers state the research method used?
- Do the researchers present enough data to support their conclusions and interpretations?
- Is the method of analysis proper?
- Is the method of analysis adequately explicated?
- Is the result/conclusion clearly presented?
- Do the researchers report on the reliability and validity of the research?
- Are the findings of the research trustworthy as an answer to the question of review?

5.4.4 Data analyses

The studies whose initial data extraction met the quality appraisal criteria required a comprehensive review. Thematic synthesis is applied to analyze the included studies (Gough et al., 2017). The cornerstone of thematic synthesis is thematic codes that are used across all the studies. As the author pointed out (Gough et al., page 195), three stages consist of thematic synthesis: coding text, developing descriptive themes, and generating analytical themes. The selected studies were coded by terms, lines, and paragraphs with the tool of NVivo.

5.5 Summary

A systematic literature review is an approach to identifying, examining, and explaining all the primary research which is related to a specific topic or phenomenon (Kitchenham, 2004). In this project, systematic literature review (SLR) is being applied as the methodology of research, in order to serve the purpose of conducting a trustworthy and scientific evidence platform for recommendations to policy makers, higher institutions, and practitioners in China: What is the teacher professionalism with the children who are under three years old? As a reviewer, my mission is to have a thoughtful, clear, and well-designed strategy to identify the relevant studies most likely to answer my research questions, instead of trying to include every possible related paper in every database (Gough et al., p113). 39 studies were identified after the inclusion criteria screen and quality check. With the tool of NVivo, several themes emerged through a comprehensive review of each study through the coding process, which will be presented in the following part: Findings.

Chapter 6 Findings

After a comprehensive process reading of the selected studies, a number of themes emerged. These new themes were grouped into three different aspects: 1. the notion of teachers' professionalism is multifaceted; 2. policy and reality; 3. infants' and toddlers' needs. All these three aspects are able to answer the research question.

6.1 The Notion of Teachers' Professionalism with Infants and Toddlers is Multifaceted

6.1.1 Teacher Education Needs a Specific Age Focus

(Dalli, 2008; Garvis et al., 2013; Garvis & Pendergast, 2015; Gilken et al., 2023; Han, 2023; Jung et al., 2021; Norris, 2010; Park Soyeon et al., 2014; Robinson et al., 2021; Vasconcelos, 2013).

Babies are different from older children, they have different needs. Their voice is preverbal and soundless, which requires teachers to have specific skills to identify, adopt appropriately, and respond properly. In this systematic literature review, many studies have stated similar findings which are that teacher education is crucial to ensure the quality of infants and toddlers education and care, especially teacher education with a target age focus.

Dalli showed three emerging themes regarding to teachers' professionalism: a clear pedagogy style, specialist knowledge together with practice, and joint-and-shared relationships (Dalli, 2008). In her study, participants have clearly highlighted the importance of having general knowledge with regards to children, and also the knowledge with an age focus on children who are under three, as one of the keys to professionalism in the field of infants and toddlers education and care (Dalli, 2008). Dalli argued that early childhood teachers' professionalism is not only valuable and sustainable but also manageable with a content education including specialist professional knowledge and practices. The focus on the particular age, for example, from birth to three, is a crucial characteristic in the content of professional knowledge and practice within teacher education.

Han reached similar conclusions in her study with regards to the context of China. Even if a teacher holds a kindergarten teaching credential, there is still a need for a specialised training and assessment, especially towards children who are under three years old (Han, 2023). Considering that this group of children has different physical and cognitive characteristics, specialised professional knowledge and hands-on practice is a must and profound foundation in pre-service teacher education, to adapt them better and properly in reality.

In Australia, 25 pre-service early childhood specialisation teachers participated in a study (Garvis & Pendergast, 2015). The participants indicated that even though they were offered 10 days of field experience with infants and toddlers, they still felt not confident or competent enough when they came to the settings of educational daycares. The authors suggested reviewing the current ACECQA in Australia and including at least a whole term with a specialised teacher education about infants and

toddlers, meaning 0 to 3 years old, in order to serve this group of children better with confident and knowledgeable educators.

According to Norris (2010), there was a challenge and also a need to change teacher education program content at the level of higher education. More specifically, they needed to include a course with the specific needs of children who are under three years old. This suggestion was based on the fact that the availability of early childhood teacher education programs at universities and colleges with a focus on infants and toddlers was very limited in the United States of America (Norris, 2010). The importance of having a higher level education of teachers is that it is connected with children's cognitive, and social outcomes in the classroom.

In Portugal, 11 public recommendations were approved by the Portuguese National Council of Education in 2011 and they have been analysed in a study (Vasconcelos, 2013). One recommendation was to implement specific training in teacher education to prepare teachers for work with children who are under three. This group of children is the most vulnerable and needs a voice. In this sense, special teacher training with age focus should be provided to pre-service teachers to understand and communicate with them appropriately.

In Korea, there was one study that also shared similar needs. In the context of Korea, several infants and toddlers educators "confessed" that they did not receive any proper training with an age focus in teacher education (Park Soyeon et al., 2014). After they finished teacher education, many of them were put into the infants and toddlers centre-based care without getting any in-depth knowledge and practicum experience with the specific age group, meaning 0-3. In Korean society, the infants and toddlers' teacher job is still treated as something any woman can do with no need to have specialised training or education. However, this is not the case. Teachers' sensitivities and responsiveness are critical in infants and toddlers development. These characteristics within teachers are not naturally-born, they need to have specific training and education.

In America, there was a study to show that only less than 1% of the courses at university were devoted to the curriculum for infants and toddlers (Gilken et al., 2023). It is important to develop a unique skill set to work with infants and toddlers. Developing a relationship-based environment requires teachers to have a specific skill and knowledge together with field experience.

Another study also found that working with the youngest group was different, requiring new thinking and different approaches (Jung et al., 2021). Language was one of their concerns. Compared to working with older children, who have more clear verbal communication skills, in some way, it is easier to know them and their needs. However, to work with infants and toddlers who have very limited language skills is apparently different. Teachers need to communicate, understand, and facilitate their needs with their language, in this case, specific teacher training is needed. One study also showed that the practical experience with a specific age focus reshaped teachers' perspectives of being infants and toddler teachers. Babies talk with minimum language, so it requires teachers to have specific knowledge (Robinson et al., 2021).

A content analysis which was conducted by a group of researchers showed that it was important to provide pre-service teachers with sufficient knowledge and field experience to understand better of infants and toddlers. This paper was designed to explore 55 Australian early childhood teacher undergraduate education programs to provide evidence regarding what pre-service teachers learned about children from birth to three years during their formal program of study (Garvis et al., 2013). The findings stated that only 15 out of 55 programs titled infants and toddlers as the special age focus.

6.1.2 Teachers Education Needs Practical Experience with Infants and Toddlers

(Clark & Baylis, 2012; Garvis et al., 2013; Garvis & Lemon, 2015; Jung et al., 2021; Norris, 2010; Rentzou, 2024; Robinson et al., 2021; Rockel, 2009, 2014; Tadeu & Lopes, 2023; Vasconcelos, 2013; White et al., 2016)

In the UK, Clark and Baylis explored the Early Years of Professional Status (Clark & Baylis, 2012). Early Years Professionals - EYPs, is a group of graduate pedagogues who share the same interest in children who are from birth to five. The participants in Clark and Baylis's study were all female and shared a similar situation, in that they lacked real experience with babies and toddlers and they demonstrated the importance of having field experience with this group of children in order to achieve EYP status successfully. In the study, the authors indicated that the practitioners must not only have sufficient relevant knowledge but also show the ability to lead practices with infants and toddlers in order to have EYP status. The practical experience with the youngest ones is important to challenge teachers' own understanding of being professionals. After all, "becoming" and "being" is not the same.

In Australia, a group of researchers conducted a content analysis study by examining 55 available early childhood teacher undergraduate programs to have a better understanding of what pre-service teachers learned about children from birth to three during their formal programs. All these 55 programs have been approved by the Australian Children's Education and Care Quality Authority (ACECQA). The study found that only 18 out of 55 programs offered practical experience with infants and toddlers, and only 15 out of 55 programs had a specific focus on children under three years old (Garvis et al., 2013). The authors shared a similar agreement: it is important to provide pre-service teachers with adequate knowledge, as well as practical experience, to understand the importance of infants and toddlers.

Robinson, O'Connor, and Treasure's designed a study that was conducted by quantitative and qualitative research, a mixed method, to investigate the pre-service teachers' perspectives of being teachers at the early learning centre (Robinson et al., 2021). The participants in the study were 30 female pre-service teachers and the findings showed a positive correlation between teachers' experiences on practicum and the willingness to search for employment in the same areas. They also found that pre-service teachers' practical experiences played a significant role in the way how they perceived the early learning sector. After being offered practical experiences with infants and toddlers, the pre-service teacher also appeared to rethink their perspectives about babies, in particular, recognising the complexity of the setting and the purpose of the teacher in this context.

Norris in his study came up with several recommendations, one was to provide pre-service teachers with supervised field experiences and internships. This was particularly important in the area of infants and toddler classrooms (Norris, 2010). Similar findings appeared in the study (White et al., 2016). This paper was designed to report a project that was adopted originally from the United States of America: Collaborations of Universities Pedagogies of Infants and Toddlers' Development, namely, CUPID. The purpose of the study was to explore students' practical experience who were at the first year of initial teacher education with infants and toddlers from five universities across Australia and New Zealand. The findings showed that several universities see the need for practical experience to be gained before pre-service educators start to work with this age group, 0 to 3 years old.

Another finding from a qualitative study which explored a group of teachers' perspectives who were first prepared to teach at the primary level (Jung et al., 2021), showed uncertainty among the teachers when they were put in settings with the youngest age group. After 15 weeks of work with infants and toddlers, this real experience helped pre-service teachers gain a deep and broad understanding of early

childhood education and care. The findings from this paper also suggested that a supportive practicum experience plays an important role in pre-service teachers' transition to teaching the youngest ones.

Furthermore, pre-service teachers placement is a part of a mandatory requirement for those who are willing to work in the field of early childhood education and care in Australia. According to ACECQA, 80 days of field experience is a must, if you are an early childhood undergraduate pre-service teacher; and 60 days of field experience is a must if you are an early childhood post-graduate pre-service teacher. More specifically, a period of at least 10 days of practical experience was given to children who are from birth to two years, a large number of days were given to children who are from three to five, and the left number of days can be given with those children who are more than five years old. From this government requirement, it is easy to see the importance of practical experience. However, this is problematic. The authors of one study questioned this arrangement and suggested that a clear message of importance about valuing some age children over others becomes clear (Garvis & Lemon, 2015). A good practice arrangement with infant and toddler is important, especially for the pre-service teachers. This type of training cannot be missing, it is a period for the transmission of knowledge for teachers. It can also shape educators' beliefs about being an educator for those who are the youngest, rather than being a substitute of a 'mother'.

Rockel in her two different studies indicated the similar importance of having practical experience with the youngest age group in the context of pre-service teacher education. Teachers who are with infants and toddlers should consider themselves educators or teachers, instead of "caregivers". She proposed a notion of "pedagogy of care" (Rockel, 2009). Also, teachers need to adopt the "content of pedagogy" and put it into action with relevant ideas. In her other study, pre-service teachers shared that it is not only about having and forming relationships with infants and toddlers but also about "how" to build up relationships (Rockel, 2014). From this point of view, teachers' placement plays a crucial role.

In line with the concept of important practical experience with infants and toddlers, 51 Greek infants and toddlers teachers participated in a study which was conducted by Rentzou. The study shed light on the devalued practice with infants and toddlers in an educative way in Greece (Rentzou, 2024). The participants showed and reported that they recognise the distance between knowledge and reality, and that they are prepared well to meet infants and toddlers' needs in terms of relevant knowledge and practice.

Furthermore, a study was conducted in Portugal (Tadeu & Lopes, 2023) in which seven educators, seven assistants, and seven parents participated. Several themes emerged from this study. One of them was the importance of having real experiences with infants and toddlers. This study focused on in-service teachers who just started their job, instead of pre-service teachers. This can be seen as a trial process in reality for teachers, allow them to make mistakes, to try, to adapt, and is the very first stage of these teachers' face-to-face experience in terms of the work's complexities. Also in Portugal, a set of recommendations which were issues by the Portuguese National Council of Education in 2011 stated that the need to have initial training with pre-service teachers for our most vulnerable citizens (Vasconcelos, 2013).

6.1.3 Infants and Toddlers Teachers Need Community of Support

(Clark & Baylis, 2012; Dalli, 2008; Garvis & Lemon, 2015; Norris, 2010; Rogers et al., 2020)

Community of practice is a term created by Wenger (1998). Early educators can develop a feeling of valued and gained mutual support by the community of teachers (Rogers et al., 2020). Within the group of infants and toddlers teachers, the practitioners' professional identities developed through the support of the community of teachers. They shared knowledge, resources, support, and similar interests as being members of the network. A sense of teacher-efficacy improved in this community. The teachers were

not alone but part of the network, gaining positive outcomes from collaboration, reflection of their practices and sharing of their ideas. As a result, educators' confidence improved.

Another study was conducted in Australia (Garvis & Lemon, 2015). Considering that pre-service teachers are given only 10 days to directly work with children who are under three years old, an online resource U3Vid was created to help pre-service teachers to reflect on working with the target group of children who are from zero to three years old. This online platform was easily accessed regardless of the locations and time. The participants valued this online community resource highly and it helped them to learn from different perspectives and from being engaged in the reflective practice.

The study of "Wasted Down There" reached similar conclusions in terms of the importance of community of practice. This network helped to develop new insights and perspectives on the meaning of working with infants and toddlers (Clark & Baylis, 2012). Members of the community were encouraged to reflect on and share their thoughts. Through this process, every participant contributed and also gained from the group to develop professional knowledge. The community could also help teachers to develop professional relationships with each other, a process which in itself also developed the community. More importantly, this ensured teachers' continued learning regardless of the EYPs program's timeline.

A study conducted by Dalli also showed the benefits of being a part of a community (Dalli, 2008). Teachers were making connections with other childcare centres and schools, building up networks with relevant companies. By gaining support from the community, teachers' identities and roles became more visible (Norris, 2010).

6.1.4 Important to Have a Positive Partnership Between Educators and Parents (Branscomb & Ethridge, 2010; Hostettler Schärer, 2018; O'Connor et al., 2018; Rockel, 2014)

Children are the interest of many parties, for example, parents, educators, policy makers and researchers. Ideally, to achieve an optimal outcome, all the parties work positively together to take care of and educate infants and toddlers. Relationship topic in the youngest world is acknowledged well by scientific research. The relationship between educators and parents is considered rather important for children's development, and especially for the youngest ones. A specific professional-family partnership plays a key role in early childhood education and care. It is easier for children to accept and build a close and secure relationship with a new educator when they sense that he or she meets their parents' "approval". Moreover, every infant and toddler is different as they come from varied family backgrounds. A positive relationship with parents helps educators to gain a better understanding of the children. To build a sustainable relationship takes time and effort. In the selected literature review, many studies have shared similar ideas.

In order to have a better relationship with children, educators were encouraged to set up a partner-like relationship with parents in a certain of collaborative and cooperative way (O'Connor et al., 2018). This approach was encouraged and supported also in the context of Australia by the Early Years Learning Framework (EYLF) and the National Quality Standard (NQS). A focus group study in which 28 educators participated, found that conversations between parents and teachers can provide educators with an open opportunity to learn more about the children and the family as a whole, which can help them to situate the children more. Sharing information between educators and parents freely and openly, instead of judging, was considered as working more effectively and collaboratively for all parties' benefit, for example, parents, educators, and of course the children. A positive partner-like relationship between parents and educators was helpful in strengthening children's overall development and learning. The relationship between child and parents can also benefit from teachers' knowledge sharing with regards to children's development. According to the authors, one of the key roles as an educator

with infants and toddlers, was to be able to communicate effectively and to set up a trust relationship with parents (O'Connor et al., 2018).

In a study from a teacher preparation program, seven pre-service teachers who were on full scholarship with a focus on infant development participated to explore their learning experiences in the United States of America (Branscomb & Ethridge, 2010). The findings indicated that teachers gained more insights into children through conversations between parents and educators at the centre-based daycares in an open and free way, and this approach was the most often mentioned by the participants in the interviews. As one of the teachers said in the study, "Parents want to be informed" and this communication between educators and parents strengthened their relationship with infants and toddlers.

A case study with a focus group and individual meetings together with four educators' experiences sharing at childcare centres in the context of Canada showed that educators considered themselves as experts, and not partners with parents (Hostettler Schärer, 2018). They also saw themselves as someone having expertise, sharing the importance of educating parents on how to interact with children in a proper way. From this perspective, it was not surprising to see that parents were hesitant to develop a relationship with teachers at childcare centre. The author did not agree completely with the participants' views. However, he/she suggested that there was a need for additional research to determine how the relationship should be at care centre.

In New Zealand, teachers' work is not only about educating and caring for infants and toddlers, but also includes respect for parenting and listening carefully to each family, in order for the educators to gain a better understanding of the children at their care centre (Rockel, 2014). This requires a collaborative partnership between teachers and parents.

6.1.5 Teacher's Status Holds a Great Impact on Teacher's Professionalism

(Knight, 2023; Rogers et al., 2020; Wu & Perisamy, 2021)

In the selected studies, many have shown that teacher status is one of the crucial characteristics in terms of measuring the quality of teachers' professionalism. Infants and toddlers' teachers' status can be perceived in two ways, horizontal and vertical ways. From a horizontal perspective, we can see teacher status as developing from within itself. This self-development through time, ongoing learning, daily reactions with infants and toddlers, and relationships with their parents, colleagues, and the relevant community. Through horizontal change, payment, social recognition, and social welfare have been experiencing visible and invisible changes.

From a vertical point of view, teacher status is affected in a top-down way, meaning that government regulations together with a policy from top policymakers have influence on practitioners' status. Top policymakers have an impact on local municipalities, infants and toddlers' education and care centres, higher educational institutions, and so on. This influence will directly or indirectly impact the individual teacher's professionalism.

Pre-service teacher status consists of, payment, work hours, social recognition, parents' appreciation, infants and toddlers' attachment, government regulations, historical influence, diploma or certificate, in-service training, continual professional learning, professional knowledge, co-workers relationship, relationship with supervisors, work environment, union support, the community of teachers, insurance, social warfare, teachers feelings and such.

This emerging theme is reflected in this systematic literature. A study which was conducted in Singapore has shown that the government and local centres should work together to improve the support (Wu & Perisamy, 2021) and learning opportunities for in-service teachers to encourage and help them to upgrade themselves constantly. This can be related to both vertical and horizontal teacher' status. The

authors also suggested that the government indeed has the power to adjust current policy with regards to the teachers educational background together with a structural way for infants and toddlers' educators to have pre-service and in-service training in order to ensure the quality of the teacher workforce.

Three projects conducted in Italy, Canada, and Australia have shown that educators' work at the workplaces is undervalued (Rogers et al., 2020). Educator efficacy was affected negatively in the context of neoliberalism policy and the educators' self-esteem and value were decreasing when they needed to adapt themselves to an expected outcome in this environment. To avoid unnecessary surprises, this also resulted in limiting infants and toddlers' exploration and holistic development in the neoliberal context. This study also found that the neoliberal policies affected the teachers' self-esteem negatively and deeply. Within the neoliberal context, educators felt the pressure and push which resulted in insecurity, uncertainty, and disturbing themselves in terms of professional identity. It can be perceived from the vertical way, as a direct and indirect influence on teachers' feelings and experiences.

In a firsthand experience study conducted in Yukon Canada (Knight, 2023), teachers expressed that they would like to be seen and treated as educators instead of babysitters. According to the participants' experiences, they have been treated as nannies instead of professionals by the organisations to which they belong under the dominant neoliberal policy. This shaped their professional identity and affected their commitment to continue working in the same field. Early educators have been and are still considered as women jobs with no need for skilled training or education.

6.1.6 Infants and Toddlers Teachers' Professionalism Is Not Universal

(Dalli, 2008; Knight, 2023; Wu & Perisamy, 2021; Wysłowska & Slot, 2020)

According to Dalli (Dalli, 2008), there is no such universal quality of early education and care. In the study of Yukon and with regards to Dahlberg and Moss, they also agreed that quality in early childhood education and care was being questioned (Knight, 2023), especially towards those children who are under three years old. Local culture, policy context, relevant population size, and historical educational philosophy are variables that should be considered when defining teachers' professionalism. The definition of teachers' professionalism with infants and toddlers cannot be universalised or globalised.

In Singapore, the authors of a study also agreed that even if Western educational models are prevalent in ECEC (Wu & Perisamy, 2021), countries also have the strength to localise these methods in accordance with their own early childhood settings. There are several terms that have been popular in the sector of infants and toddlers education and care centres, such as the Montessori approach, Reggio Emilia model, Steiner approach, and so on. In the mainland of China, under the free-economy influence, the Montessori approach is one of the main pedagogy approaches that has gained popularity among parents as a service-buyer, and for the private care centre. This approach has been successful in the educational market. However, this is problematic.

In a cross-country study, the sharing principle of a holistic pedagogical philosophy demonstrating a child-centre approach was implemented in real educational practices varied among countries (Wysłowska & Slot, 2020). In the Nordic countries, child-centre approach is well recognised, however, it has challenges in the context of China with respect to its unique historical background.

6.2 Policy and Reality

6.2.1 Infants and Toddlers Education and Care is Governed Differently

(Campbell-Barr et al., 2015; Knight, 2023; Lazzari et al., 2015; Rentzou, 2024; Tadeu & Lopes, 2022; Wu & Perisamy, 2021; Wysłowska & Slot, 2020; Yang & Lim, 2023; Zhang et al., 2022):

In recent years, the field of early learning has experienced historical changes in Yukon in the context of Canada. Knight (2023) devoted her study to the area of early childhood education and showed that early childhood education and care was under supervision by the Department of Health and Social Services until the April of 2021, after which it was shifted to the Department of Education (Knight, 2023).

Singapore has gone through a similar change (Yang & Lim, 2023). Early childhood education and kindergarten were historically regulated under different government departments. Early childcare centre was overseen by the Social Welfare Department to serve those families which were classified as low-income and disadvantaged in the 1950s, today known as the Ministry of Social and Family Development (MSF). In the meantime, kindergarten was regulated by the Ministry of Education (MoE). A significant change was made in 2013 when the Early Childhood Development Agency started to report to both MSF and MoE (Wu & Perisamy, 2021).

According to a study conducted in Portugal (Tadeu & Lopes, 2022), young children who are under three are governed by the Ministry of Work, Solidarity and Social Security. Children who are over three years of age, for example, three to six, are under the supervision of the Ministry of Education.

In Greece, age differentiation is different in ECEC, however, it is almost similar in terms of being governed differently. Children who are 6 months to 5 years old are overseen by the local municipalities and indirectly overseen either by the Ministry of Interior (public centres) or the Ministry of Labour, Social Insurance, and Social Solidarity (private ones). Kindergarten is for children who are four years old and is considered as compulsory education which is overseen by the Ministry of Education and Religious Affairs and forms a part of Primary Education (Rentzou, 2024).

Another study which was conducted in Italy also shows similarities (Lazzari et al., 2015). Childcare services for those who are zero to three years old are under the responsibilities of the Ministry of Labour and Social Affairs, whereas children who are three to six years old are under the supervision of the Ministry of Education, and also form part of the compulsory age.

The situation is the same in Hungary. The Secretariat of Health, Social, and Family Affairs in the Ministry of Human Capacities oversees children from birth to three years old, whereas children from three to seven years old are under the responsibilities of the Secretariat of Education in the same Ministry (Campbell-Barr et al., 2015).

A study from the Netherlands also illustrates similar political responsibilities (Wysłowska & Slot, 2020). In the Netherlands, the child sector is overseen by the Ministry of Social Affairs and Employment. However, recently, it developed in an orientation with an educational perspective to support a rather broad development for children (Wysłowska & Slot, 2020). In the context of China, kindergarten focus on the age at three and onwards, and is governed by the Ministry of Education. Children below three years of age are under the responsibilities of the National Health Commission (Zhang et al., 2022).

These politically split systems are common in many countries and they influence teachers' professional identity deeply. These systems are being questioned, and many countries' policy makers have recently made changes to balance these two sectors to achieve an optimal outcome for the youngest ones, for example, Singapore (Yang & Lim, 2023), Yukon (Knight, 2023), and Netherlands (Wysłowska & Slot, 2020). In the field of research, scholars also paid attention to the split system which it is evident in the previous research study. It helps us to think and rethink how to maximise the influence of policy to achieve better quality education and care for our infants and toddlers.

6.2.2 Infants and Toddlers Education and Care is Growing

(Campbell-Barr et al., 2015; Garvis & Lemon, 2015; Han, 2023; Knight, 2023; Park Soyeon et al., 2014; Robinson et al., 2021; Rockel, 2009; Vasconcelos, 2013; Wu & Perisamy, 2021; Wysłowska & Slot, 2020)

Based on a macro perspective, from the government policy point of view, many relevant frameworks, guidance, and investments have been created in order to support infants and toddlers' education and care. In Singapore, the Early Years Development Framework (EYDF) was established in 2011 to have a specific focus on the importance of having a method with responsive and respectful views in teachers' interactions with infants and toddlers (Wu & Perisamy, 2021). The government of Singapore also invests seriously in the field of ECEC and has served children from low-income families increasingly for a long period of time. Caregiving in Singapore is now being defined as a state service instead of the role of mothers (Wu & Perisamy, 2021). Of course, parents spend most of their time with their children and are the best caregivers and influencers to their babies. However, with the policy recognition, the mother's role is not only about staying home to take care of the baby but also about being a capable worker. The Childcare Centres Act and Regulations help childcare services to become more affordable. Parents can have subsidies in accordance with their work.

In the context of China, 2019 was considered a turning year for infants and toddlers. A public statement was issued by the Chinese Central Government with a specific focus on children who are under three years old: the Guiding Opinions on Promoting the Development of Care Services for Infants and Toddlers Under the Age of 3. This was the first time for Chinese policy makers to point attention to the construction of a professional teaching staff for early childhood education with the age of 0 to 3 (Han, 2023).

Australia has implemented an important change in the sector of early years: focus on the raise of the qualification requirements of early childhood educators. This came into effect in the council of Australian Governments (2009). Since 2009, the Mitchell Institute reported that as of 2020 the Australian government had made a 140% increase in investment in the early years (Garvis & Lemon, 2015).

The Canadian federal government answered public concerns with a serious investment. For example, 30 billion CAD to support a national child-care program for all Canadians in the next five years and 9.2 billion CAD every year after the five-year plan, permanently (Knight, 2023). In Yukon, several changes have been made with a focus on the early years sector. As an example, the newly established Yukon Early Learning and Child Care Unit, which holds the responsibilities for early childhood education, introduced a universal child-care system, investing millions of CAD every year in the early learning system, and launched the Professional Diploma Pathway (Knight, 2023).

In South Korea, centre-based infants and toddlers education and care experience a similar development. According to a report from the Korea Institute of Child Care and Education in 2012, more than 50% of infants and toddlers were involved centre-based childcare programs in South Korea. More specifically, from 2004 to 2011, the percentage of babies who were attending centre-based childcare programs increased from 3.2 % to 32.5% for zero-year-old, from 13.3% to 53.1% for one-year-old, and from 31% to 77% for two year old (Park Soyeon et al., 2014). The Korean government recently offered free child-care for all children in Korea from birth to five years old.

In Poland, one important new regulation which was formally established is called the Act of 4 February 2011 on Care for Children up to the age of 3 (Wysłowska & Slot, 2020). Under the influence of government policy, attendance rates have increased significantly from 2.6% in 2010 to 13.1% in 2018. However, these figures are still among the lowest compared to other European countries. In the Netherlands, the attendance rate has been stable at a high level of about 80% (Wysłowska & Slot, 2020).

In Portugal, a public statement was presented by the Portuguese Nations Council of Education and included a number of recommendations to the government concerning 'The Education of Children from Zero to Three Years'. This was a crucial moment for the education of children from zero to three years old. Revolutionary, the first of the 11 recommendations from the 2011 public statement stipulated that education for 0 to 3 years old must be seen as a child's right (Vasconcelos, 2013). This public statement was developed in answer to the Organisation for Economic Cooperation Development (OECD) in ECEC with the evaluation in Portugal. It recommends that more attention should be paid to the education of children who are under three years old.

In Hungary, a BA program for infants and toddlers' education and care was created in 2009, which was seen as an important turning point (Campbell-Barr et al., 2015). Prior to that, no such higher education program preparing pre-service teachers for work with children who are under three years old existed.

The author of one study stated that as more and more women were involved in the work market, supporting the youngest ones in child-care centre becomes more urgent. In New Zealand the under two years old group is the fastest growing in early childhood education and care. Between 1997 and 2007, enrolment for children who are aged from birth to two years old in registered centres increased by 39.5% (Rockel, 2009).

6.2.3 Neoliberalism in Infants and Toddlers Education and Care

(Knight, 2023; Li et al., 2022; Rogers et al., 2020; White et al., 2016)

One prevalent term emerged from this system literature study: neoliberalism. This term is defined as follows: a political approach that in favor of free-market and free economy, releases the investment pressure from the government organisation. Some scholars believe that neoliberalism is good for boosting the economy (Li et al., 2022). In this paper, we are not discussing the advantages and disadvantages with respect to neoliberalism. However, neoliberalism in the context of education can create segregation in terms of the availability of educational resources, with the risk of excluding families who are unable to pay for such services.

A study conducted by several authors stated that neoliberalism in early childhood education and care is a global phenomenon. This type of policy favours a user-pay system, the value of competition, the lack of state interference, and the value of free market economics (Rogers et al., 2020). It is a profit-driven approach that can widen the gap between rich and poor and result in lower quality of the workforce, affecting educational services provided to infants and toddlers negatively. The study showed that teachers' self-worth and confidence were affected negatively under the neoliberalism policy. This limited children's overall development due to the predefined tasks, rules, and routines for educators (Rogers et al., 2020).

In Yukon Canada, infants and toddlers educators work at a centre that is run privately in a market-oriented fashion (Knight, 2023). Parents are considered consumers or service buyers rather than a very basic right in a democratic society. Similar findings appeared in another study, where it was found that private for-profit provisions play a big role in early childhood education and care. This orientation could possibly make teachers' work environment more vulnerable, (Li et al., 2022).

According to a finding from an Australasian experience (White et al., 2016), the authors noted that the neoliberal setting had created the need for educators for children in the age 0-3 in the first place, but in the meantime also shifting responsibilities for care and education for the very young ones to parents, instead of the state.

6.3 Infants and Toddlers' Needs

6.3.1 Correlation Between Teacher's Quality and Infants'/Toddlers Experience/Outcome

(Bratsch-Hines et al., 2020; Manning et al., 2019)

Process quality refers to infants' and toddlers daily experiences and interactions with teachers (OECD, 2018). The quality of teachers is seen as one of the main variables that have a direct and indirect influence on infants' and toddlers' experiences and learning outcomes. In the context of China, it is common for pre-service teachers to receive formal higher education before actually becoming teachers in different sectors, for instance, Nanjing Normal University and Beijing Normal University. The Teacher Law in China, number 11, clearly shows that it is a requirement to have a teacher certificate or relevant formal higher education degree to become a teacher from kindergarten onwards (Y. Yang & Rao, 2023). It becomes evident that such teacher requirements and formal higher education are missing parts regarding children who are under three years old. In this selected systematic literature, many studies have shown the correlation between teachers' quality and babies' experience.

One meta-analysis review evaluated evidence on the relation between the qualification of teachers and the quality of early childhood education and care environments. Based on 49 eligible studies, the authors found that specifically the teachers' level of education was positively correlated to various qualities in the setting of early childhood education and care (Manning et al., 2019). Also, the findings indicated that the teachers' higher qualifications were significantly related to a higher quality environment in ECEC. As measured by ERS, which focuses on the measurement of multiple process qualities, this study provided evidence of the existence of a positive correlation between teacher education and classroom quality.

A longitudinal study was conducted with 1055 children who were from low-income families in North Carolina and Pennsylvania in America (Bratsch-Hines et al., 2020). Data were collected at 2, 6, 15, 24, and 36 months through home and/or child care visits with parent interviews, children assessment, and administrative questionnaires. The findings indicated that there was a positive correlation between 36-month language skills and caregiver-child verbal interactions; there was no correlation between caregivers' sensitivity and 36-month outcomes; there was no positive correlation between 36-month outcomes and caregivers' stability.

6.3.2 Pedagogy for Infants and Toddlers

(Campbell-Barr et al., 2015; Jung et al., 2021; Rockel, 2009; Vasconcelos, 2013; Wu & Perisamy, 2021; Wysłowska & Slot, 2020)

According to author Jean Rockel, pedagogy is perceived as offering a theoretical and philosophical foundation to practice (Rockel, 2009). A relationship-based pedagogy approach acknowledges that the baby is the key and that the baby has its own pace of development. New Zealand educators have a philosophical pedagogical understanding of a bicultural curriculum (Rockel, 2009).

Some pedagogy approaches are prevalent in Western countries, such as the Montessori approach, Reggio Emilia Model, and play-based learning (Wu & Perisamy, 2021). In Hungary, the pedagogical practice is play-based, together with open opportunities for physical interactions between educators and children through games and nursery music (Campbell-Barr et al., 2015). Research so far has found a common pedagogical base for infants and toddlers education and care systems in European countries, meaning a holistic pedagogical philosophy with a focus on the child-centre approach (Wysłowska & Slot, 2020).

Vasconcelos also suggested that from a public recommendation in Portugal, the Ministry of Education should set pedagogical guidelines for teachers working with children from zero to three years old (Vasconcelos, 2013). The power of observation was discussed in the class of infants and toddlers (Jung et al., 2021). The observation was one of the emerged key factors that can be used to describe crucial variables in the pre-service educators' experiences. From preservice teachers' interviews, they stated that it was important for teachers to observe and step back. Observing is an approach for teachers to understand the distinctive ways in which the youngest communicate, and shape educators' beliefs and perspectives with regards to babies as capable social human beings. It helps them to respond to infants and toddlers' needs in an appropriate way. The youngest are different compared to older children. The authors also indicated that a child-centre philosophy is one of the key points to measuring the quality of centre for infants and toddlers.

Chapter 7 Discussion

7.1 Findings in relating to research questions

The purpose of this study is to systematically synthesis previous scientific findings from the primary research, in order to have a better understanding of teachers' professionalism in the settings of infants and toddlers' education and care, to have some relevant implications for Chinese policymakers. Yet there have been no attempts to use a systematic literature review to study other countries' regulations with a focus on children who are under three years old, to have possible potential ideas about the future path with regards to China, until now.

There are three main findings in the current study. First, the notion of teachers' professionalism is multifaceted. This finding is not even surprising at all, given that teachers' professionalism is located at the heart of Bronfenbrenner's ecological theoretical framework (1979) with regards to this study. Teachers' professionalism consists of several levels, and all these levels are interconnected with each other and have indirect or direct influence on teachers' professionalism. Teacher education is one of the crucial factors that has an influence on teachers' professionalism, which is in line with the theoretical framework. Furthermore, the findings of the literature review support the view that knowledge and teachers' placement with specific age focus on children who are under three years old in pre-service teacher education is important. Internship/field experience/practicum is especially important to be included in teacher education. This may and most likely shape teachers' perspectives to work with infants and toddlers. It is evident in the previous literature and also in the policy context, that such practical experience for pre-service teachers is important, for example in Australia (Garvis et al., 2013) and New Zealand (Dalli, 2008). However, formal teacher education with a specific age focus is still a global problematic area according to previous studies (Norris, 2010).

Infants and toddlers are the youngest learners compared to other age group children. They have their uniqueness, their own language, and social skills and they are competent learners. They cannot communicate smoothly yet like older children, but this does not stop them from communicating. Babies are agency and they need an adult to guide them, teach them or just to be with them, which is different compared to school-age children.

In the context of China, teachers work with children who are over three years old and there is a qualification or certification requirement for such practice (Y. Yang & Rao, 2023). However, for teachers who work with children under three years old, there are no such requirements implemented (Hong et al., 2022). Infants and toddlers' ages are critically different, and the literature reviewed suggests that teachers who work with this age group need special education. To require teacher education with this specific age focus can build teachers' confidence and can increase their likelihood to continue working in this field (Garvis et al., 2013). A stable workforce can offer children and parents a sense of safety and comfort. Teachers' stability might also help children develop a better and more profound relationship with teachers at the centre-based educational daycares. The findings of the literature review show that teacher education with an age focus will help teachers have a better understanding of babies' language, to act, and to respond appropriately (Han, 2023).

Early educators are special due to the establishment of a positive partnership relationship with parents, which is also crucial for babies' holistic development (Rockel, 2009). A positive partnership with

parents can help teachers gain a better understanding of children at centre-based daycare (Rockel, 2014). However, other research indicates that some educators have shown their reluctance to build relationships with parents (Hostettler Schärer, 2018), and hence it might be helpful if the teacher education preparation includes this content.

The findings of the literature review show that teachers in ITEC value their professional status and would like to be seen and treated as educators rather than babysitters (Knight, 2023). As was discussed in the introduction, *bianzhi* and *zhicheng* are two special variables affecting teachers' status in the mainland of China. With the unique Chinese cultural and political background, the Central Government policy makers control the system of *bianzhi* and *zhicheng*, and such titles are only available for teachers who work in public kindergartens and onwards. Early educators in China work with infants and toddlers at the centre-based educational daycares, which are almost all private-run and profit-driven. One way forward for Chinese policy makers to increase the status of teachers in ITEC would be to implement certification requirements in line with the system already in place for teachers of older children. Aside from the status of teachers, research also shows that the educational level of teachers influences the childrens' learning outcomes (Norris, 2010).

In China, there is a saying "ren duo li Liang da" which can be translated as "more people, more powerful". Infants and toddlers' teachers' community is a place for professionals who have similar interests, to share their thoughts and information, and actively engage with their reflective practice, in order to reach ongoing professional development. It can offer teachers a sense of belonging and even social status. Research shows that the community of early educators is key to making sure the connections occur within the teachers' group and that such interactions form a positive learning experience for the teachers (Rogers et al., 2020). Teachers could have open opportunities to expand their network, make links with relevant early education and care centers, socialize with other practitioners, policymakers, and researchers. From this community, teachers can learn and develop either in their professional field or in their personal interest area. To some extent, with help from the community, this could stabilize teachers' commitment to their work with infants and toddlers.

The second finding is that infants' and toddlers' education and care are in many countries governed separately compared to older age group educational systems. Research shows that these split systems impact teachers' professionalism, one example being the case of China with titles and certifications awarded only to teachers of older children (Zhang et al., 2022). These split systems also reflect the theoretical framework in which the macro system influences the status of teachers. With the influence of the top policymakers, policy is never far away from teachers' identity (White & Dalli, 2020). From this point of view and in the context of China, one possible way to improve teachers' social status would be to shift the responsibility of infants and toddlers education and care to the Ministry of Education. The literature review shows that many countries have undertaken such changes in educational policies in recent years and New Zealand is shown to be one of the leading countries in terms of recognizing teachers' professional identity from the top level of politics (White & Dalli, 2020).

Minister of Education commented that early childhood people are being regarded as professionals. They have gone from "childcares" to educators.

Another example in Poland, where the attendance for childcare services significantly rose from 2.6% in 2010 to 13.1% in 2018 due to the policy changes (Wysłowska & Slot, 2020). In the context of China, top policymakers have even more influence compared to other countries, due to that China is governed by only one party, the Communist Party. Education plays a fundamental role in every Chinese family. Education can change the future and can bring children bright life and high social status. With the influence of Confucius's philosophy, Chinese hold a great respect towards teachers. To encourage the government to put serious investment into the sector of children who are under three years old, to move 0-3 years to the sector of the Ministry of Education, these changes and signals from top Chinese policymakers could ensure the society's recognition of early educators, offer them social status, stability,

commitment in the field, social welfare and payment improvement. As a result, teachers' professionalism is in the process of improvement.

Infants and toddlers' education and care in China are not under the responsibilities of the Ministry of Education like the other age groups, for example, the primary school system. Teachers' professional identity takes time, effort, and for different societal levels to work together, which reflects the theoretical framework of this study. It is multifaceted. From the top-down view, the government should take the initial step to change. According to Dalli, infants' and toddlers' teacher identity is a constant reconstruction road (Dalli, 2008). Teachers' identity needs help from policy makers. They are not isolated professional workers. With a specific focus on 0-3 years old children, teachers who work with them need to have a position, a voice, and a community to help them stay, grow, and commit. They are not temporary workers and they are the ones to ensure the quality for the youngest ones. From a vertical perspective, structural change will bring an effect chain. In the context of China, a policy to introduce *bianzhi* and *zhicheng* to the field of infants and toddlers' educational daycares could help to ensure stability in the workforce. This emerging theme (infants and toddlers are governed separately), offers us to rethink the position of zero to three years old. They also need to have quality care and education. How to ensure this? As has been shown in the case of New Zealand and Poland, among other countries, restructuring this age group to the Ministry of Education is a possible initial step.

In this study, the third finding is that infants' and toddlers' needs are different. The literature review indicates that toddlers and infants need teachers' observation in the classroom (Jung et al., 2021). Teacher observation is defined as the practice of sitting in on another teacher's class to observe, learn, and reflect. When working with infants and toddlers, teachers' observations become quite different. It means sharing power, empowering babies' freedom, and allowing them to make their own choices, and explore surroundings based on their own interests. They can play with toys, read books, sing, and dance in a safe environment. Through observation, teachers become learners. They are the cultural mediators. They learn from their 'students', in this case, meaning infants and toddlers. This learning process helps teachers to develop a more appropriate curriculum and to have enough knowledge about their babies at centre to have a clear expectation for infant and toddler behaviors. It is reciprocal.

Furthermore, traditional Chinese classroom pedagogy does not work properly in the settings of the youngest ones. Teacher-centre approach limits infants' and toddlers' curiosity and exploration abilities. However, Chinese teachers are usually less tolerant of young children's freedom and pay more attention to setting up rules and discipline during the interaction between babies and teachers (Zhang et al., 2022). Babies learn and develop from free moving. Child-centre approach is an ideal and appropriate way to be with this group of children. The low teacher-child ratio could help the function of child-centred approach to have a possible optimal outcome in the context of China.

7.2 Again, why infants and toddlers are important to give attention to?

According to Dalli, the infant is a learner who is a member of a pedagogical experience shaped by education and care (White & Dalli, p.4).

The first few years' experiences of an individual child are shown to be strong predictors of his/her future development in later life (Bertvannoers, p.336). Research from neuroscience has shown that the brain forms and develops through daily experience in the very early years and this development continues to have an impact on behaviors later in life. Studies from Harvard University show that the brain starts to have signs of activity during the first weeks in the womb (Scientific Council on the Developing Child, 2004). Before and after a baby is given birth, moving environmental experiences activate the brain's ongoing connections. Self-regulation can be observed in the first weeks after being born (Bertvannoers, p.339). Scientists from neuroscience demonstrated that playful experience plays a key role in stimulation development in the brain (Bertvannoers, p.339). Infants and toddlers develop positively in a stimulating

and playful environment. The brain's constant development is a non-stoppable changing process by outside surroundings.

Infants' and toddlers' development is affected greatly by their relationship experiences. These young minds are learning from experiences, absorbing new knowledge, and staying active almost all the time. For the youngest ones, aside from a relationship with their direct family, the relationship with their immediate and stable caregiver is also an important factor in their development. From a neuroscience perspective, it gives us reason to believe that in the child centre, in which an infant or toddler has sensitive, supportive, and responsive interactions with their caregiver and educator on a daily basis, these accumulating experiences have an important impact on children's later life, even in adulthood (Bertvannoers, p.343).

According to the scientific findings from Centre on the Developing Child at Harvard University, early years experiences affect the development of brain architecture, which provides the foundation for all future learning, behavior, and health. In the first few years of life, more than 1 million new neural connections form every second (Scientific Council on the Developing Child, 2004). The early years are the most active period for establishing neural connections and the interactions of genes and experiences shape every child's brain development all the time (Scientific Council on the Developing Child, 2004). Cognitive, emotional, and social competence emerge in the very early years. This interaction structures the foundation of the brain, and all the relevant future development will be based on it. It helps create initial connections between all the different areas of the brain, building the necessary social skills children need in life. Early childhood education and care are reciprocal. From an educational perspective, play is usually the main educational practice for infants and toddlers. For school children, it is more obvious to know how much they study, and which higher school they managed to be enrolled in, this outcome is more concrete, rather short-term, and easier to observe (Y. Yang & Rao, 2023). On the contrary, to educate infants and toddlers, the outcome is more invisible, rather long term, and cannot be seen immediately. However, early years' experience is a foundational platform for a better future, according to the neuroscience (Scientific Council on the Developing Child, 2004).

Since science has already proved the importance of early years' development for infants and toddlers, now comes the question: how to maximize the developmental outcome for babies during these specific years? Research indicates that recognizing and respecting the nature of the babies, can be a first step (Vasconcelos, 2013): who are they and what are their characteristics? They are individuals, vulnerable and capable, they need a voice. They are distinctive. They are an underestimated part of the field of research. They know and are capable more than we think. They are devalued and quite dependent. In this sense of understanding, the adults who spend time with them become key mediators in order to help infants and toddlers achieve an optimal outcome.

In regards to early years development, the serve and return approach is recommended by Harvard University (Scientific Council on the Developing Child, 2004). The foundation of this approach is sensitive, responsive, warm, attentive interaction. A child serves by showing interest in something and the adult respond in a supportive way. It occurs through observations and actions between infants and toddlers and their main caregivers. Serve and return interactions shape brain architecture, it is critical for a child's developing brain and it can be practiced. Much like a real game of Ping-Pong., this back-and-forth is both fun and capacity-building (Scientific Council on the Developing Child, 2004). We can help build the child's brain at any time under any circumstances. Everyday interactions can have a huge impact on the developing brain through childhood, starting even before babies can talk. Five steps are introduced to perform this method: 1. Share the focus. When a child is interested and curious, we can see it and observe it. By noticing serves, we are helping build curiosity and strengthen relationships; 2. Support and encourage; 3. Name it. When we return a child serves by naming what they are seeing, doing, or feeling. An important language connection is developing in their brain. Naming also gives a child a word he/she can use later; 4. Take turns back and forth. Waiting patiently is crucial; 5. Practice ending and beginning. Infants and toddlers will signal when they finish and move on to the next activity.

When we can observe these moments for a child to take the lead, we show our support to let them explore the world at their own pace. At later ages, a broad range of competencies, such as social skills, a sense of security, positive relationships with others, and morality are based on early age development, even from birth. The warmth and support of the caregiver in a childcare centre have a great influence on the development of capabilities in infants and toddlers, such as fewer behavior problems, and enhanced thinking and reasoning skills at school age.

7.3 Implication for infants and toddlers' future in the context of China

In this section, I use the findings of the literature review together with the theoretical framework to discuss some implications for the Chinese quality infant and toddlers' education and care (ITEC) centre. Professionalism is an ecology that needs different elements to work together at many levels (White & Dalli, p.9). As previously stated, infants' and toddlers' education and care in China contain two policy goals. One is to support and promote children's development, one is to support and help parents in the job market. These policies are related to the country's economic development from a macro perspective.

7.3.1 ITEC needs to have more attention from the top-level Chinese government

A policy represents a struggle and social changes (Yang & Rao, 2023). Wen Jiabao, the former premier minister of the People's Republic of China, gave a speech at the public Press Conference during the National People's Congress in 2012. He stated in a clear and public way that there is no success in economic restructuring without having success in policy reform first. Policy works as a foundation platform in the economic field and also works the same in the field of education. This is in line with the ecological theoretical systems and also with one of the findings that policy plays a crucial role in the field of ITEC. Policy is never far from practice (White & Dalli, p.5), and policy can enable and constrain the possibilities of children's lives.

The Chinese government has started to recognize the importance of early childhood education and care, especially with a focus on zero-three years, an age group that until now has been neglected (Hong et al., 2022). In 2019, the government published a public policy statement about the *Guidance on Promoting Caring and Nurturing Zero to Three Years Old in China*. This statement shows that children from birth to three are getting more attention from the top-level of the Chinese government. As shown in the research (Hong et al., 2022), this was a historical moment for the top Chinese policymakers to commit to this field. This also reflects the macrosystem framework of this study, although the theoretical framework suggests that other systems may need to work together in order to achieve the goal of quality ITEC.

Infants and toddlers' education and care need the government's serious investment, ensuring and providing parents and children equal access. In this age group, the availability of ITEC and the growing demand for such services are imbalanced (Liu et al., 2022). In Germany and Norway, ECEC settings in urban areas serve more children who are under 3 compared to the settings in rural areas (OECD, 2018). According to Dalli, the contemporary real life for children aged under 3, and the growing demand for daycare services, create several challenges to the government and society (White & Dalli, P.5). A similar situation is present in China. There is no such public service (Liu et al., 2022). The private service centres are costly and lack requirements for teacher certifications and national standards. As a result, very young Chinese children are often taken care of by close relatives. Although the central government introduced the encourage-to-have-more-children policy, China experienced only a very slight increase in the fertility rate from 1.67% to 1.77% in 2017 under the second-child policy influence in 2016 (OECD, 2024). However, since then, the fertility rate dropped dramatically to 1.16% in 2021. According

to research (Hong et al., 2022), the lack of qualified childcare services leads parents to become hesitant to have more babies.

7.3.2 ITEC needs national standards to ensure teachers' qualification

The importance of the relationship between child and mother has been under discussion for decades. The importance of family relationships with grandparents has also been widely discussed. However, the impact of relationships with infants/toddlers' educators at the service centre is a rather new focus. The teachers play an important role in the process of interaction with infants and toddlers. In the context of China, teachers are respected highly and are expected to be role models for the children (Yang & Rao, 2023). Children who are under three years old are unique, specific, and unlike the other age groups of children. Quality interaction between educators and infants/toddlers is considered to have a direct impact on children's development (OECD, 2018). A sensitive, responsive, and well-educated educator or caregiver plays a critical role in such process of interaction. The findings of the literature review suggest that teachers need to be given specific training to develop competence and skills to work with children (Garvis et al., 2013). Pedagogy's presence of an adult to engage actively with infants and toddlers enhances their experience and shapes their brains greatly (White & Dalli, 2020). Children can be vulnerable when their intentions are misunderstood (White & Dalli, 2020).

However, as much research indicated, the youngest children in their most informative years are quite often taught by the least qualified educators (Bautista et al., 2018). The same situation is present in the mainland of China. Infants and toddlers' education and care are under the responsibility of the National Health Commission of the People's Republic of China, instead of the Ministry of Education which assumes responsibility for children aged three onwards (Hong et al., 2022). This separation leads to direct and indirect influence on the settings of ITEC and kindergarten. This phenomenon is in line with the findings of the literature review which show that ITEC is governed differently in many countries, and also reflects the impact from the macrosystem in the theoretical framework.

In the Chinese teacher's system, there is a requirement to have a teacher certificate in order to be a formal kindergarten teacher (Yang & Rao, 2023). For those who teach infants and toddlers, there is no such requirement (Hong et al., 2022). For tertiary education in China, a four-year bachelor's degree includes teacher education for those who seek work in kindergarten, primary, and onward education systems. However, for teachers seeking work with infants and toddlers (*zao jiao shi*, in Chinese), there is no such unified teacher professional standard (Hong et al., 2022). Hence, introducing formal university education with a focus on infants and toddlers in China may be one way to treat ITEC similarly to other levels of teaching.

7.3.3 ITEC in China needs to have their localized pedagogy

All societies are under the influence of globalisation which has led to constantly growing connections between people and institutions throughout the world (Rao et al., p.40). Globalisation is brought up by Robertson (1992). There is a trend toward standardisation of global practice (Rao et al., p.40.). Infants and toddlers' education and care is not an exceptional case. According to research (Rao et al., p.40.), there is a market push to introduce Western theories and pedagogies to the Chinese educational systems, and especially to the field of ITEC.

In the context of China, it may prove difficult to copy the Western infants and toddlers' educational practices directly without consideration of the local culture and political background. Research shows that Chinese teachers are less tolerant of students' freedom and do not like to be challenged with their authority (Zhang et al., 2022). Chinese children are taught to respect their elders, parents, and teachers. These educational approaches developed historically under the Confucian philosophical influence. The findings of the literature review show that there is no universal teacher professionalism and studies from Singapore highlight the need to localise Western educational models (Wu & Perisamy, 2021). Western

educational ideas should not be directly transferred to Chinese societies without adapting them to local needs (Rao et al., p.47). Child-centred pedagogy in the field of ITEC may therefore require a certain adjustment in the context of China. Nonetheless, we need to respect that infants' and toddlers' knowledge is gained by moving with curiosity (White & Dalli, 2020).

Globalisation and local practice are not enemies with each other, but can rather be seen as a model of partnership. Chinese local cultural background, together with the relevant Western educational philosophy, can develop new pedagogy that suits local Chinese' needs. To summarise, the development of ITEC in China needs to consider the Chinese culture and develop an appropriate pedagogy to meet local needs.

7.3.4 ITEC needs to have parents actively engaged

Establishing an active partnership between parents and educators at centre-based care has proved many positive effects on children's development (Rockel, 2014). Interactions between staff and parents are an important part of process quality and one of the keys to promoting children's learning, development, and well-being (Branscomb & Ethridge, 2010). This is in line with the findings of the literature review and also the ecological theoretical framework. Infants and toddlers teachers' professionalism includes the quality relationships with parents (Dalli, 2008) because of the nature of the youngest ones.

Parents are the main and key persons in children's holistic development. According to research, the first few years for children are especially important (Cadima et al.). Children learn and develop fast and they spend most of their time with their parents. For Chinese parents to engage with kids actively, maternal leave might be one of the factors that need to be taken into account. In mainland China, a mother has 96 days of maternal leave, a father has no paternal leave. That means, after 96 days, mothers need to return to work.

It is almost an identical situation in America, as shown in a study from Harvard University. Parents are generally offered unpaid parental leave for a maximum of three months, although such policies do not cover all employees. Those employees who are eligible for parental leave and can afford to take the time off, still face the risk of losing their jobs. Researchers are questioning this policy because it hinders parents from developing a strong bonded relationship with the baby in the early months of life. In the context of China, extending the period of maternal leave might be one alternative for policy makers.

Chapter 8 Conclusion

8.1 Summary

One of the fundamental missions of researchers, practitioners, and policymakers is to give solutions to societal concerns and meet the relevant participants' needs. This study has an age-exclusive focus on children who are under three years old. This group of children receives more attention today compared to before, from different levels of stakeholders. The very young children are the future of us, our country. Parents need to feel safe to put their most vulnerable infants and toddlers somewhere when they are at work, in this case, centre-based educational daycares. A professional and qualified daycare makes parents feel less stressed/anxious, and more importantly, it helps infants and toddlers develop positively in a friendly and free environment. Then comes a question, what makes an educational centre-based daycare qualified? It is a multifaceted task. Process and structural quality both play an equally crucial role in ensuring the quality of daycare for our youngest ones (OECD, 2018). With regards to research, the interactions between educators and infants/toddlers have the most direct influence on children's development (OECD, 2018). The purpose of this study is to have a scientific understanding of teachers' professionalism in the settings of centre-based educational daycare with children who are under three years old.

The research found that the country's economic development and social welfare are correlated with this young group of quality education and care. Namely, a stronger economy is connected with better quality of infants and toddlers' education and care (Cadima et al., 2020). How to ensure this "better"? Teachers' professionalism plays a crucial role in this setting. Based on the theoretical framework and to develop teacher professionalism, several levels of systems need to actively work together to achieve a better outcome. For example, from the macro-level perspective, top government policymakers' attention to this age group makes a lot of difference (Wysłowska & Slot, 2020). Research has shown that teachers' professionalism needs societal recognition. Infants and toddlers' education and care need to have the same treatment as other educational systems, meaning to include ITEC in the same agenda, the Ministry of Education. This approach is adopted by several countries. Infants and toddlers also need a clear differentiation concerning age compared to older group children. They have their own development attributes, their own distinctive language skills, social skills, physical movement, and so on. Teachers who are about to teach them, for example, pre-service teachers, need formal higher education, and more importantly, they need formal education with a specific focus, from birth to three. In teacher education, research shows that there is a need for specialization knowledge, together with placement or practical experience before graduation. This is especially important for infants and toddlers. Pre-service teachers need to have a specific training in order to know their students better, to observe them with purpose, let the baby be a baby. A community of early educators can help teachers to establish links with each other, learn from each other and develop professionally and individually within the group. A partnership relationship between parents and teachers is pivotal in children's holistic development. As Dalli (2008) mentioned, there is no universal professionalism in the field of ITEC. Research suggests that with the Chinese historical and political background, a suitable Chinese teachers' professionalism can be developed in adapting to Chinese young children, together with a national Chinese pedagogy in the field of infants and toddlers (Rao et al., 2016).

Early childhood education and care with a focus on ages from zero to three is a topic that matters to every family and country. In recent years this field has grown and received attention from policymakers, researchers, practitioners, and parents. However, education and care for children aged under three are still developing at an early age. In the context of China, there is a need for attention to this specific age group. The availability of research on Chinese early education with children who are under three is very limited (Zhang et al., 2022). The Central government issued a third-child policy and guidance about how to raise babies who are under three years old which shows a commitment from the state to improve this sector. However, as research indicated, the Chinese government should include more consistent and equal solutions in national practices to avoid confusion in enacting policy (Yang & Rao, 2023). Compared to earlier generations, parents in China are more educated and aware of the importance of early education. The research findings suggest a few possible routes for Chinese policy makers to develop a localised teacher professionalism, for example, teacher education with a specific age focus, practical experience for pre-service teachers, building a community of support and partnership between parents and educators, and an adapted pedagogical approach for Chinese children. A specific focus on ITEC can bring China a brighter future.

8.2 Limitations

The current body of literature regarding teachers' professionalism with infants and toddlers is growing, but still a rather new developing area. Quality in early childhood education and care is giving more attention to children who are older than three years old, however, the specific focus on the aged children who are under three remains undervalued. In order to have a better and deeper understanding in terms of the correlation between teachers' professionalism and infants/toddlers' outcomes, this type of study needs more research investment.

This study is designed to provide a scientific understanding of teachers' professionalism with children who are under three from the previous primary study, to have some potential ideas and implications for Chinese policymakers to guide in the relevant field. In the context of China, there are almost non-existent in terms of teachers' professionalism with this specific age group of children.

With regards to all stages of this study, for example, literature search, selection process, inclusion and exclusion criteria, and coding with NVivo were utilised to strengthen the validity of the result. Regardless of relevant emerging findings, my review has many limitations. As research revealed that a good systematic literature review takes time, resources, efforts, and ideally more than one researcher (Jesson et al., 2011). I only included the publicly available studies which were conducted in English. This may have introduced bias for unpublished and other language studies. My focus is on centre-based early childhood education and care, not including family-based daycare, this possibly develops some biased interpretation of teachers' professionalism.

8.3 Implications for the Future Study

This study has a specific focus on teachers' professionalism in the settings of infants and toddlers' education and care with a qualitative research method of systematic literature review. For future study, it possibly can expand the focus on the national curriculum and pedagogy with children who are under three, to develop a more appropriate local professionalism in the mainland of China. With regards to the research method, SRL is the current study research method, it might include interviews with teachers who work with infants and toddlers as one of the alternatives for future research to gain a front-perspectives in the field of ITEC.

8.4 A Statement of Research Ethics

According to the Guidelines for Research Ethics in the Social Sciences and the Humanities, research ethics consists of a series of scientific norms: the truth norms, methodological norms, institutional norms, and other common norms. All these norms together are devoted to keeping a trustworthy scientific practice. This study is conducted by systematic literature review. Research indicated that systematic reviews may have studies that contain ethical insufficiencies and may publish unethical studies, also leading to conflicts of interest (Vergnes et al., 2010). A routine ethical assessment in a systematic literature review would help to improve the moral and methodological quality of the current study (Vergnes et al., 2010). Data were searched and collected from the primary public peer-reviewed research paper. During the level of sourcing data, I managed them responsibly and ethically with clear citations. As the national guidelines state, a good citation practice is about recognizing the work of others. This systematic literature review is based on the previously accessible researchers' work. At all stages of the current study, I try to minimize my bias, including my awareness of mitigating potential bias in search, study inclusion criteria, and interpretation results. This paper is designed to have true, reliable, scientific research for Chinese policymakers to make possible efforts and improve the quality of infants and toddlers' education and care.

8.5 A statement of research sustainability

This study uses a systematic literature review research method to focus on teachers' professionalism with infants and toddlers' education and care. This topic directly relates to UN Goal Number 4 Quality Education. The Goal 4 aims to ensure equal quality education and to encourage lifelong learning for all by 2030. More specifically, this research relates to the aspect of goal 4.2, to ensure all boys and girls have quality early childhood education and care so that they are ready for primary education (United Nations, 2022). Teacher professionalism can be seen as the foundation for a well-functioning educational system, and improvements of teacher quality therefore directly impact progress to reach the Goal 4. Furthermore, the findings of this study outline the importance of different aspects of teacher professionalism and how they interact to create teacher efficiency and attractive pedagogical environments. The policy implications for China aim to enhance the quality and sustainability of ITEC, for example by improving the status of Chinese teachers, thereby increasing the attractiveness of the teacher occupation. Indirectly, such reform could also increase the supply of educational resources. In this sense, this study relates not only to the quality of ITEC education but also to the availability of educational resources.

From a global perspective, the progress to reach educational targets has been halting, even before the COVID-19 crisis. I hope, my study can shed light on Chinese infants and toddlers' education and care, and contribute to ensuring that children have access to achievable, affordable, and quality education and care.

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