I. Early Childhood Education and Care (ECEC) in Germany

To understand the early childcare and education system of Germany, it is necessary to put it into the political context. Germany was divided into two parts from 1945 until 1989. There had been strong disagreement between the educational philosophies in former east and west Germany, but of even more influence is the fact that there were large differences in structural features of quality in early childcare, like the teacher-child ratio or the range of providers that run early childcare centers. The second important fact to know is that Germany has a federal political system with 16 states that hold responsible for educational issues independently. This means there are also 16 different educational plans or curricula for the ECEC system. The third important background is that the German ECEC philosophy doesn't allow to split off the tasks of education, care and socialization; we think them all together. There are no separate providers for either care or education. This also means that there is only one childcare institution for the very young children and the older ones, both offering care and education in an integrated way. Finally, during the last 15 years, the task of early childhood education and early learning, resp., became very important, partly because of the poor PISA results of German pupils, but also because developmental psychology informed politicians and public about the importance of the early years for learning and healthy development.

Since 1996, every child from the age of 3 years on has a legal claim for a placement in an early childcare institution. Since 2013, this claim has been extended to children from 12 months of age on. Attendance rates of older children are in

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general very high. They exceed 90% in every single federal state (year 2014) with slightly higher rates in the former GDR states. For the younger ones (aged 0 to 2 years) though, the attendance rate is lower in general and there are large differences between the former western part of Germany, where they range between 24% and 31%, and the former eastern part, where rates reached between 50% and 58% in 2014.

The structure of ECEC is shown in the following figure.

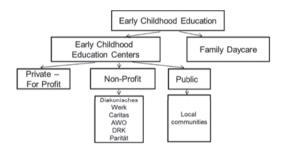


Figure 1 ECEC structure in Germany

Children mainly attend center care ("Early Childhood Education Centers"). Family daycare, where a person usually takes care for up to five children at her/his home, is also available as a public service, especially for children under 3 years of age.

Most of the early childhood education centers are run by non-profit organizations or local communities. There are only very few private for-profit centers in Germany, although this sector is growing. Social organizations get refunded by the states or local authorities.

In 2014, a total of 21.4 billion EURO (約 26,750,000,000,000 円) was provided to support the ECEC. The expenses are almost entirely divided between the states and the local communities. The federal ministry isn't allowed to give money

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because of the subsidy principle, only the local communities and states. The local communities can charge fees from parents. Fees differ largely across the country. The nationwide average comes to 57% of the expenses for ECEC covered by the local communities; the federal states give about 41.3% of the money, while the federal government of Germany only accounts for 0.9% of it, mainly provided via short-term projects to support educational quality. To sum up, financing is somewhat illogical: While local communities have the highest part of costs, taxes and social insurance fees go to the federal states or to the federal government.

The ECEC system is growing. At the moment, there are about 54.000 early childcare centers in Germany. There has been a continuous growth of early childcare teaching staff between 2006 and 2018. In 2018, more than 724.000 people worked in the early childcare sector, and almost 600.000 of them were pedagogical staff. This is much more than in primary school.

There are three main ways to become an early childcare teacher in Germany. The biggest part of the staff are so called *educators* (Erzieherinnen), who started with a secondary school level after 10 years of school. In some federal states they have to hold a higher education entrance qualification. Most of them are trained to become a *social assistant* ("Sozialassistent") first for two years and then add two or three more years of vocational training at a technical school. After passing the final exams, they are a certified early childcare teacher.

For not more than 15 years, it is also possible to take courses in early childcare and education at universities and universities of applied sciences. Although there are already about 100 bachelor and master programs, these programs graduate only about two and a half thousand people per year (as of year 2010/11). This is only a very small share of the ECEC workforce. The workforce in ECEC is also comprised of a few people who re-entry after a family-break, who come from other countries with more or less equal qualification or who decide to change their professional way. There are differing regulations in the states for these people to be allowed to work in daycare centers. Because of the dramatic lack of early childcare teachers in some federal states, a new way into the system with a dual training onsite and school-based has been created recently. It allows people to work in a childcare center from the first day of their professional training while attending classes one or two days per week.

Still, "Erzieherinnen" ("educators") with vocational training and a technical school degree are the main group of professionals in childcare institutions in Germany, but - at least in the former Western part of Germany - there is also a remarkable amount of so called *children's nurses* ("Kinderpflegerinnen") (16%) that are educated on a lower qualification level. Only about 5% of the staff is academically trained.

What do we know about the quality of early child care teacher education? Do students learn what they need to foster the development of the children and to support families in their educational tasks? Are they prepared for the education and care of babies and toddlers? Some researchers argue that the curricula of the *technical colleges* ("Fachschulen") don't reflect the new and demanding tasks the staff has to face. Just at a glance-why are there different and more complex tasks for early childcare and preschool education than before? One reason is that early child care has become part of the normal biography of young children, with more than 90% of children attending child care prior to primary school. This implies that early childcare professionals have to deal with children and families from very diverse cultural, social and economic backgrounds. They need competencies to manage this heterogeneity and to offer preventive as well as compensating support. Additionally, since all federal states have established early childhood curricula, childcare teachers are more aware of their task to contribute to a child's development in terms of cognitive, verbal, social and motor skills. They are expected to offer early literacy education, fostering basic science and math skills, supporting creativity and first encounters with the fine arts and much more. This makes their work more demanding than it used to be. Also, more and more children enter child care at a very early age. At least in the former western states of Germany, childcare teacher education did not and still does not account for the characteristics and needs of this age group.

Bearing this in mind, there are in fact some doubts whether the early childhood teacher training at the vocational schools ("Fachschulen") is sufficient to meet these growing requirements. When teachers themselves were asked, they considered their preparation for working with the children and in their teams as good, and also their knowledge base and personal development. But they reported to lack competence dealing with difficult children, with families from different social or cultural backgrounds and in center management and leadership. We also know that the vocational training is sometimes not sufficiently connected to scientific knowledge and critical thinking (Cloos et al., 2015). Upgrading teacher qualification to an academic level is one possible way to compensate for these shortcomings.

II. The early childcare quality debate in Germany

The debate about the quality of ECEC in Germany came up with the reunification in 1989 and was intensified by the alarming PISA results published in 2000. Since then, the quality of ECEC has been discussed from several perspectives. The educational discourse focuses on the notion of ECEC as institutions with a clear educational task, codified by the educational plans/ curricula of the 16 federal states. The professionalization discourse recognizes that the increasing expectations and tasks require better and higher formal qualification of the teachers. As a result, competence models and skill criteria catalogues were developed. There is also a big concern about how to safeguard equal opportunities for children of all economic and social backgrounds with regard to their school performance and later life success. Finally we discuss the relation of structural and processual quality features, knowing that inadequate structural conditions in the field of ECEC - mainly child-to-staff-ratio, time frames for leadership, management and indirect educational work, teacher qualification - hinder institutions to deliver highest educational quality.

Recommendations for quality management

To assure and develop ECEC quality, different legal provisions, guidelines and recommendations have been put in place. The Eights Book of the Code of Social Law (federal law, SGB VIII § 22a) states that an educational concept is mandatory for every ECEC provision and that providers have to implement appropriate evaluation tools. In 1999, a big statewide initiative (National Quality Initiative in the ECEC system, 1999-2005) was set up by the federal government to develop and test scientifically based internal and external quality evaluation systems. In 2019, the federal government put into effect a Federal Law for Quality Development and Educational Participation ("Gute-Kita-Gesetz") which allows the government to support the federal states financially in their efforts to increase quality in ECEC.

Still, these systems are not mandatory. As a result of the above mentioned National Quality Initiative of the federal ministry of family and youth affairs, comprehensive catalogues of quality criteria for the educational work with different age groups and for childcare providers were developed. One of these catalogues, the so called National Criteria Catalogue for childcare centers (children from zero to six years of age) (Tietze & Viernickel, 2016), became quite popular and is used widely. Together with a workbook for center leaders and teams it serves as a guideline and toolbox for a systematic quality management process in seven steps that teams can follow to assure quality and improve their pedagogical practice.

Dimensions of child care quality

The general operationalization of quality follows the notion that there is some input to be given into the system (figure 2, left side); that this input somehow influences the pedagogical work and the formation of relationship with parents; and that the quality of this processes leads to certain outcomes, mainly better children's competencies and support of family functioning, e.g. in terms of balancing work and private life.

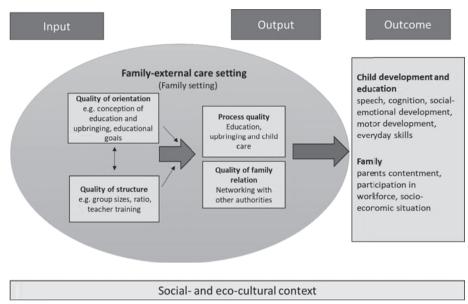


Figure 2 Dimensions of quality in ECEC

One important input that influences the quality of educational processes is the quality of orientations (see figure 6). Orientations are professional views on educational values, goals and practices like focusing on children's strengths and resources instead of problems or deficits, or valuing diversity primarily as enrichment rather than risk.

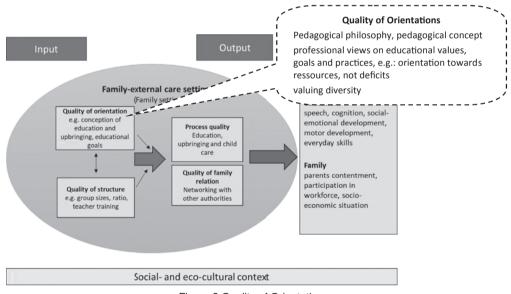


Figure 3 Quality of Orientations

Also of great importance for the educational processes are the structural quality features of the

ECEC environment.

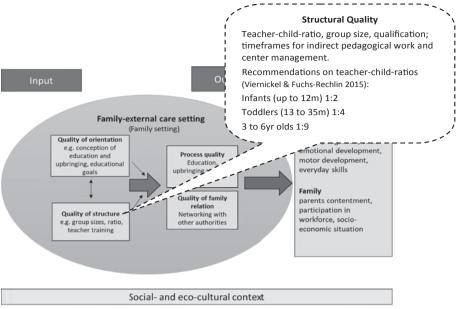


Figure 4 Structural quality

International research identified three main aspects of structural quality that – together and by themselves – have measurable impacts on process quality in ECEC provisions: Teacher-child-ratio, group size and teacher qualification (NICHD Early Childcare Network, 2005). Other important conditions include the availability of timeframes for indirect pedagogical work, e.g. planning, documentation, exchange with parents, and center management tasks. Although teacher-child-ratios in German ECEC centers became better over the past 10 years, they still rarely meet scientifically recommended standards.

Process quality is a general term for the experiences of children while they attend ECEC. It refers to rooms and materials as well as to the interaction between adults and children and between peers and also to the educational partnership with parents.

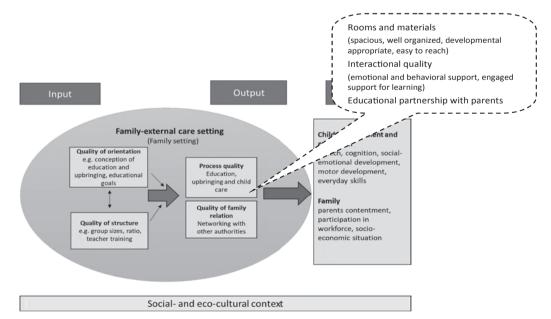


Figure 5 Process quality

III. Quality research in Germany

Over the last two decades there is a growing body of research encompassing a variety of methodological approaches and applied methods. Still, a big part of the research is quantitative and uses international applied quality scales, mainly the ECERS family (e.g. Harms et al., 2015), and the CLASS concept (Pianta et al., 2015). Research conducted in the mid-nineties of the last century showed that the quality of early childcare settings in Germany reached only a medium level with very few provisions reaching very good results. In 2011, again a nationwide quality research project was funded, called the NUBBEK study (National Inquiry on Early Child Care and Education, Tietze et al., 2013). Unfortunately, quality did not improve during the last 20 years; again, less than 10% of the centers reached good or excellent quality.

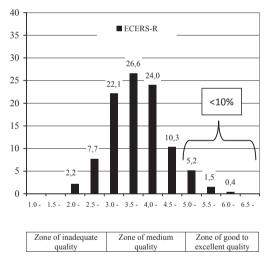
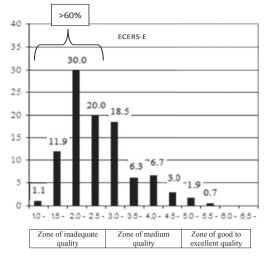
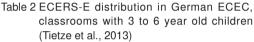


Table 1 ECERS-R distribution in German ECEC, classrooms with 3 to 6 year old children (Tietze et al., 2013)

Even worse were the results from ECERS-E. This scale puts a strong focus on teaching and supporting school-related competences, like early math, science and literacy skills. Here, 60% of the participating centers remained on a low or very low quality level, indicating an urgent need for action. Although these were alarming results, they are still comparable to the results of studies in other countries, like the United States or the Netherlands.





Pedagogical quality and child care features

The NUBBEK study also revealed differences in quality ratings between age homogenous and age heterogenous concepts. While there were only small differences between these concepts in terms of the quality of focused educational aspects (measured with the ECERS-E), significant differences in favor of age-homogenous group settings showed up for general quality ratings in toddler- and preschoolclassrooms.

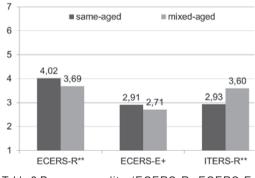
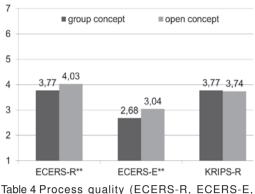


Table 3 Process quality (ECERS-R, ECERS-E, ITERS-R) in same- vs. mixed-aged classrooms in Germany (Tietze et al., 2013)

Additionally, as shown below, quality ratings of open concepts were higher than quality ratings in fixed group settings; there are significant differences for preschool age children (3 to 6) on ECERS-E and ECERS-R but not for younger children (ITERS-R).



ITERS-R) in fixed vs. open group settings in Germany (Tietze et al., 2013)

Finally it was discovered that quality ratings of centers with high vs. low percentages of migrant children show that classrooms with more migrant children score lower than classrooms serving less children with migration background on quality measures, at least in classrooms with children under three years of age.

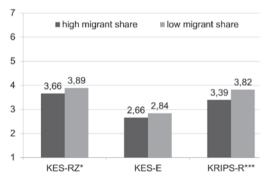


Table 5 Process quality (ECERS-R, ECERS-E, ITERS-R) in classrooms with high vs. low share of migrant children in Germany (Tietze et al., 2013)

Importance of structural quality for pedagogical quality and teacher's health

Poor structural quality not only influences pedagogical processes negatively, but also limits the positive effects that statewide curricula or educational programs are intended to achieve. Based on a statewide survey and additional group discussions with ECEC teams (Viernickel et al., 2013) it has to be concluded that teachers are not entirely able to act according to the high quality standards of the curriculum of their federal state because they lack personal and financial resources. This puts childcare teachers in a difficult situation. Even if they appreciate the ideas and goals of the educational program, they see themselves unable to act accordingly, mainly because of a lack of time: too many children, not enough teaching staff and not enough time for off-duty-tasks. Additionally, they experience a general lack of appreciation for their hard and demanding work.

Results of this study confirmed what we knew from other research: early childcare teachers and teams suffer from the gap between high aspirations and low structural standards. While some teams in the abovementioned study still were able to realize a good, very child- and family-oriented practice, others did not. This was especially due to the pedagogical orientations that the teams held, for example about the relevance of focusing on a child's strengths and interests instead of on his or her deficits; or about coping with diversity.

There is also research on the relationship between structural quality features and the health and work abilities of childcare staff, testing the hypothesis that poor structural quality puts more stress on teachers who have to reach their pedagogical goals and offer good educational practice under suboptimal conditions.

Empirical analyses on the relationship between structural quality features and staff health and work ability (Viernickel et al., 2017) have been done by calculating an index that shows how childcare teachers rate their working conditions (e.g. staff-child-ratio, stressful time schedules, opportunity to have a break during the day, time for team reflection, job security). The index differentiates between 3 groups: poor working conditions, fair working conditions and good working conditions. Results show significant and relevant differences in the prevalence of physical as well as mental illnesses over one year in all health areas, like musculoskeletal problems, neurological problems (headaches), respiratory diseases or digestion disorders (physical conditions), and mental problems, depressive or burnout symptoms with and without medical diagnosis (mental conditions). All shown differences are statistically tested and proved to be significant (p < .05).

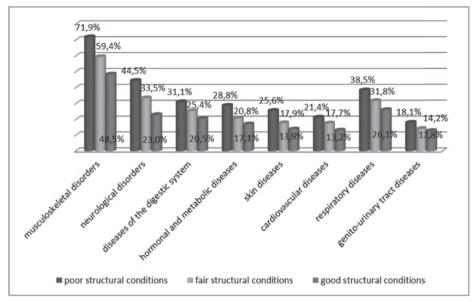


Table 6 Occurrence of physical illnesses in past 12 months under poor, fair and good working conditions in German ECEC (Viernickel et al., 2017)

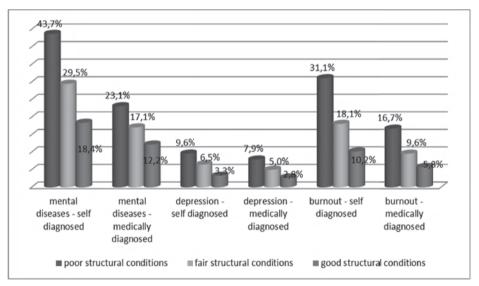


Table 7 Occurrence of mental illnesses in past 12 months under poor, fair and good working conditions in German ECEC (Viernickel et al., 2017)

This results lead to the conclusion that poor structural quality is not only a threat to good pedagogical practice and, in succession, for children's development. It is also a risk for the physiological and psychological health of the teaching staff. Results show that teachers working under poor conditions have up to a two-and a halftimes higher risk to develop physical and psychological health problems and to rate their work ability as being low (Viernickel et al., 2017). It should be kept in mind that talking about quality not only refers to the environment and interactions targeted towards children and families but also to the working conditions of the teaching staff in ECEC.

IV. Future pathways

The installation of the Federal Law for Quality Development and Educational Participation ("Gute-Kita-Gesetz") is a very important step towards the regulation of educational standards and an alignment of the different conditions in the sixteen federal states. However, as long as there is no consensus on the importance of binding minimum standards, the goal of establishing equal conditions all over Germany will not be reached. To raise and safeguard pedagogical quality in ECEC, actions on the different levels of the system are to be taken.

Other important pathways towards a high quality ECEC system therefore need to aim at securing and developing professional attitudes and reflective practice (Cloos et al., 2015). This can be achieved through excellent teacher education and teacher training, further efforts for lifting teacher training and education up to an academic level and the expansion of support systems like specialist counselling and professional training on-site.

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