



Curriculum and Quality Analysis and Impact Review
of European Early Childhood Education and Care



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CARE
Curriculum Quality Analysis and Impact Review of
European ECEC

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Early childhood education and care: promoting quality for individual, social and economic benefits

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The relations between structural quality and process quality in European early childhood education and care provisions: Secondary analyses of large scale studies in five countries

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Executive summary

This report addresses wide-spread concerns regarding the quality of ECEC provisions and reports the results of secondary data analyses of the relations between structural quality characteristics and process quality in European ECEC provisions. The report also addresses the issue of social selection mechanisms in ECEC by reporting findings on the quality of ECEC services specifically for socioeconomically disadvantaged children and by identifying combined effects of structural and contextual factors disfavoring disadvantaged children. Using data from longitudinal datasets of ongoing studies in five European countries, comparative analyses were conducted on a comprehensive set of structural variables, measured in a similar way across these countries, to investigate their associations with observational measures of process quality. In addition to the commonly investigated *main* effects, the current study also specifically explored *interaction* effects for different combinations of teacher, classroom and system characteristics. Finally, we investigated whether children from socioeconomically disadvantaged background involved in these studies experienced equal process quality as non-disadvantaged children.

In the secondary analyses reported here we followed the common distinction between *structural* quality aspects, such as group size or teacher's qualifications, and *process* quality, which refers to the physical, social, emotional, and instructional aspects of children's interactions with teachers, peers, and materials. Structural quality aspects are major factors in the costs of ECEC, however research so far has revealed inconsistent relations with process quality, while the latter is most strongly related to children's developmental and educational outcomes. Therefore, the secondary data analyses included a wide range of structural, organizational and contextual characteristics as predictors of process quality. Regarding the process quality three commonly used observation measures were included to evaluate the emotional and educational process and curriculum quality: the Early Childhood Environment Rating Scale revised (ECERS-R) and its extension (ECERS-E) and the Classroom Assessment Scoring System (CLASS).

The main analyses were carried out in two steps using hierarchical regression analyses. In the first step, the main effects were investigated by entering all predictors and in the next step the interaction term was added. All possible combinations of interaction effects were explored and tested separately. In case of a significant interaction effect, the significance and relevance of the interaction was determined.

For England the results revealed main effects of teachers' qualifications and type of provision. Quality was highest in provisions with an educational orientation compared to more care oriented provision, with a large effect size. In addition, higher qualified teachers provided higher process and curriculum quality showing small effects. Finally, an interaction effect appeared of type of provision and teacher's education level. The interaction revealed that low educated teachers working in educationally oriented provision provided higher

process and curriculum quality compared to their counterparts working in care oriented provisions, with medium to large effects.

In Finland, main effects were found for teacher's qualifications and work experience and to a lesser extent group size. Higher teacher qualifications and more work experience were associated with better classroom organization, showing small to medium effects. Larger group size was related to lower emotional support and poorer classroom organization. An interaction effect appeared between the location of the classroom (in a day care center or in a school) with group size for all three domains of process quality. When classrooms were located in schools a larger group size was related to higher process quality, whereas for classrooms located in day care centers a smaller group size was associated with higher quality.

The data from Germany showed a significant main effect of the proportion of children with migration background in a classroom. Having more children with a migration background in a classroom was negatively associated with both process and curriculum quality. The interaction analyses revealed an interaction between teacher's work experience and the proportion of children with migration background. More work experience appeared to mitigate the negative effects of having more children with a migration background in the classroom.

In the Netherlands, several main effects appeared for group size, children-to-staff ratio, work experience and professional development opportunities with small-to-medium effect sizes. Smaller group size and, at the same time, more unfavourable children-to-staff ratios was related to higher emotional and behavioural support. More work experience was related to higher quality on all domains of process quality and curriculum quality. In addition, the provision of more professional development activities at the center was related to higher curriculum quality. Three interaction effects were found: Having more opportunities for professional development in combination with more unfavourable children-to-staff ratios was related to higher educational quality, which seems to point to a compensating effect of professional development. Teachers with more work experience and more opportunities for professional development showed higher educational quality. Finally, more experienced teachers provided higher curriculum quality while having more unfavourable children-to staff ratios.

For Portugal the type of sector, favouring the public sector, was related to process and curriculum quality and the provision of additional in-service training, as indicator of professional development, was also associated with higher process quality. An interaction effect between type of sector with children-to-staff ratio revealed that staff working in the public sector and having a less favourable children-to-staff ratio showed higher process and curriculum quality.

Overall, the findings revealed several structural characteristics to be related to process and curriculum quality. Teachers' qualifications, professional development opportunities, work experience and to a less extent group size and children-to-staff ratio have shown associations with process and curriculum quality. Moreover, work experience and professional development opportunities, appeared important moderators in several

countries. More importantly, country specific moderators were evident in all countries, pointing to a complex interplay of factors, mostly related to country specific aspects of the ECEC system.

Following the interaction plots, cross-tabulations were explored to investigate the number of classrooms falling above and below the interaction effects. The findings pointed out that a relatively high number of classrooms was characterized by the most unfavourable combination of structural aspects leading to the lowest process and curriculum quality. Generally, this applied to 20% to 50% of the classrooms in the five studies. These findings are reason for concern, because the potential benefits for children depend critically on the quality. This holds especially for the most vulnerable children for whom quality matters the most.

We also investigated whether children from different family backgrounds experience different process quality. Children were defined as socioeconomically disadvantaged if their mother's education level was at or below the ISCED 2 level (lower secondary education) and as linguistically disadvantaged if their family's home language was different than the country's majority language. The results revealed different patterns across countries with both *negative* and *positive* selection effects. In Finland and Germany disadvantaged children received lower quality care compared to their more affluent peers, whereas in the Netherlands and Portugal disadvantaged children experienced higher process and curriculum quality. In England, children with low educated mothers using educare experienced lower process and curriculum quality than their peers with higher educated mothers. In the education oriented provisions non-English speaking children experienced *lower* process quality, but *higher* curriculum quality than their native peers.

These mixed findings should be interpreted while considering the ECEC systems and policy contexts in the respective countries. Finland and Germany both provide universal ECEC for children, but Finland only has a small disadvantaged population, whereas Germany has a much larger population of at-risk children, particularly children with a migration background. Although, generally, ECEC quality in Finland can be considered high, non-Finnish speaking children appeared to be enrolled in classrooms with lower educational quality. Quality in the German study was considered low and even lower for children with a migration background who tended to be clustered together in ECEC centers. The present findings suggest that the policies aiming at equal outcomes in Finland and Germany may fall short. In England there is a patchwork of ECEC provisions with a mix of publicly and privately funded organizations, with overall higher quality than in the other countries in this study, but this holds particularly for the education-oriented provisions. Disadvantaged children were about equally enrolled in educare-oriented and education-oriented provisions, thus only part of the disadvantaged children were able to profit from higher quality. Despite a targeted policy for narrowing the education gap by providing disadvantaged children with free ECEC at an earlier age than children from more affluent families, there appeared to be selection tendencies making lower educated and non-English parents choose ECEC provisions of poorer quality. Portugal has a similar ECEC system with a division between public and private provisions in combination with a targeted policy for disadvantaged families. Quality was higher in public provisions where most disadvantaged children were enrolled, pointing to a positive selection

tendency. Similarly, in the Netherlands an even stronger targeted approach was adopted to combat early disadvantages by implementing education programs focused on broad development and language skills together with the appointment of extra staff and the provision of extra professional development. Within the boundaries of the overall lower quality in the Netherlands, as observed, the targeted policy seems to be beneficial for disadvantaged children as they experience higher educational and curriculum quality compared to their more affluent peers.

Altogether, the findings from the secondary data analyses showed less than optimal structural and process quality, which may limit the potential benefits for children and society, particularly for disadvantaged children. The results also revealed that relations between structural and process quality are complex, interactive and seldom straightforward. The current findings may provide starting points for both policymakers and center management to deal with these complexities.

Recommendations

- 1) Creating a balanced team of teachers with varying educational qualifications and work experience can be an effective approach to increase quality.
- 2) Work experience was an important moderator in a number of countries, which supports the idea of creating teams of teachers varying in work experience. Embedding this in a context of continuous professional development in the center, including time for observation, reflection and feedback on practices or coaching on the job could strengthen the knowledge and skills of teachers, and result in higher quality.
- 3) Continuous professional development turned out as a common denominator of several approaches of in-service training and guidance activities at ECEC centers that contributed to higher quality in several countries.
- 4) Working with a disadvantaged population is challenging and it is essential to attract sufficiently qualified staff that can provide higher process and curriculum quality, which may require additional (financial) incentives to attract staff.
- 5) In order to increase process and curriculum quality, policy makers should not focus on regulating single structural aspects, but rather take into account the combined, interactive and systemic effects of several other structural characteristics, while also bearing in mind the specific aspects of the ECEC system in their countries.