

RESEARCH GIRLS – A JOINT PROJECT OF THE TECHNICAL UNIVERSITY OF DORTMUND AND THE OTTO- FRIEDRICH- UNIVERSITY OF BAMBERG, GERMANY

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Abstract

The abstract refers to the category Projects and Trends and fulfils the criteria in the fields: Pedagogic innovations, new learning and teaching models, inclusive and special education, educational projects.

The presentation shows ways that make it possible to sustainably provide gender-sensitive and gender-appropriate educational opportunities in early childhood in order to subsequently be able to prepare girls for changed educational paths. The starting point is a project submitted to the Federal Ministry of Education and Research (BMBF Germany), in which a structured programme is to be developed that allows educational professionals to be won over for gender-sensitive and gender-appropriate educational offers in child day care, and to strengthen and further develop their competences. Already in early childhood, important foundations are laid for independent participation in society in adulthood. The aim of the project is to address science as a field of work for girls in which they meet role models (female scientists). First of all, existing educational offers are identified and in a further step, the testing of possible gender-sensitive and gender-appropriate educational assignments for professional practice is scientifically accompanied and evaluated. The guiding research questions are:

- How do educational or research motivations arise in girls?
- How can girls be prepared for their future tasks in science?
- Which competences of girls should be perceived, communicated and positively evaluated in order to change gender-specific (role) expectations and individual creative spaces?
- How can educational professionals act in a gender-sensitive and gender-appropriate way and through which competences is early gender-sensitive and gender-appropriate education made possible?
- How can female scientists raise their profile outside the scientific community and thus become role models for girls?

The basis of the research design is an ethnographic observation of pre-school girls in different day-care centres in order to identify their ideas about later careers. Based on the results, female researchers from the corresponding domains are to be specifically acquired to serve as role models for the girls and to describe their life paths. At the same time, educational professionals will be trained as multipliers in order to implement the project permanently.

Keywords: *Gender, early childhood, visibility of women in science, research girls, role models.*

1. The project – framework, aims and content

The project presented here is currently being applied for at the Federal Ministry of Education and Research and is a joint research project between the Technical University of Dortmund and the Otto Friedrich University of Bamberg.

Female-read scientists are underrepresented in the public sphere, only every fourth professorship is held by a woman. Women are disadvantaged in terms of realising scientific career opportunities and scientific publication, "their career ambitions are "linked to masculinity"" (Deutschlandfunk 26.10.21). One of the essential tasks in the debate on "strategies to implement equal opportunities for women in education and research" is to change the pedagogical approach to gender already in early childhood. Despite the educational policy claim to realise "gender equality" in early educational institutions, current educational studies (KMS 2019; BiKS; IQB-Bildungstrend 2019, cf. Anders et al. 2020) show a clear discrepancy between the self-assessment and the skills or competences of girls. The project "Forsche Mädchen" (ForMae) aims to make role models visible in early childhood and to provide gender-sensitive identification and orientation opportunities. The limited perceptions of women's "scientific career ambitions" can be attributed not only to the hierarchising strategies of the "scientific community" or the "leaky pipeline" (exit from the science system, e.g. through the one-sided allocation of parenthood to women), but also to gender role expectations for young girls. While projects such as "MINT-Bildungsstart" or "Arbeiterkind" point out to all children and adolescents, regardless of their gender from lower secondary school onwards, the possibility of being active in STEM fields and discovering a course of study as an enabling space for themselves, there are comparable projects neither for the target group of early education nor explicitly for

girls of kindergarten age (Schlemmer/Binder 2020). Role models play an important role in explaining life plans and career choices to be made in the long term, not only from a fundamental gender perspective, but also through direct exposure to and acquaintance with female scientists directly in the children's living space (Hannover et al. 2013).

It has been proven that gender-specific assignments are already made in early childhood, which manifest themselves in different interaction, relationship and role offers, such as expectations with regard to certain behaviours, the form of relationships, etc. (Focks 2016; Andrä 2019). (Focks 2016; Andrä 2019; Hubrig 2019; Rohrmann et. al. 2018). At the same time, this raises the question of the extent to which existing gender-specific expectations can influence the individual spaces for girls to shape and act with regard to the concrete design of educational processes (Kubandt 2016; 2000). The aim of in-depth research on the topic "Research girls*!" should be to focus on the so-called "precursor competences" for later school and professional career decisions (Henschel 2000, p. 103). Previous findings show that both the pedagogical actions of the professionals in the day-care centres and the composition of peer groups are relevant for the perception, attribution and promotion of specific competences and consequently for the development of the different potentials of girls (Kubandt 2020; Focks 2016).

The research project aims to create new design approaches and the possibilities for reducing gender barriers by initiating, monitoring and evaluating the local projects "Forsche Mädchen" (ForMae) as places for gender-sensitive education and collective biographical experiences for girls. Against the background of the accentuation of children as social actors (Betz/Esser 2016; Moran-Ellis 2020, p. 175), who themselves intervene structurally in their life worlds, questions arise about the significant factors for the reduction of gender barriers in the shaping of social participation in early childhood and how these are interconnected (Kubandt 2020; Rohmann 2018). Thus, the heterogeneous possibilities of gender-conscious perspectives and potential compensatory interventions can be explored through pedagogical action in early childhood institutions. If it is assumed that children's lives, in addition to socio-political and familial influences, are predominantly structured and constructed by gender-specific setting work and segregation mechanisms, which in turn are socially mediated, the multiple institutional arrangements of care, upbringing and education are to be examined with regard to the possible strengthening of early childhood educational motivations.

The aim of this research project is to identify ways that make it possible to provide gender-sensitive and gender-appropriate educational opportunities in early childhood in a sustainable manner, in order to subsequently be able to prepare girls for changed educational paths. With the cross-location and cross-state research concept, a structured programme is to be developed which will allow educational professionals to be won over for gender-sensitive and gender-appropriate educational offers in child day care and to strengthen and further develop their competences. Already in early childhood, important foundations are laid for independent participation in society in adulthood. It is important to use this to address science as a field of work for girls at an early stage and to prepare them for changing career and life paths. From the perspective of childhood and gender research, the barriers and spaces of opportunity associated with the establishment of gender-sensitive and gender-appropriate educational opportunities in early childhood will therefore be identified and changed. In a further step, the testing of possible gender-sensitive and gender-equitable educational mandates for professional practice will be scientifically accompanied and evaluated in order to be able to sustainably implement practice-effective concepts for the educational professionals in child day care. The guiding research questions are therefore:

- How do educational and research motivations arise in girls?
- How can girls be prepared for their future tasks in science?
- Which competences of girls should be perceived, communicated and positively evaluated in order to change gender-specific (role) expectations and individual creative spaces?
- How can educational professionals act in a gender-sensitive and gender-appropriate way and through which competences is early gender-sensitive and gender-appropriate education made possible?
- How can female scientists raise their profile outside the scientific community and thus become role models for girls?

The research programme is divided into five phases over 36 months. In order to be able to investigate the educational and research motivations of pre-school girls in the respective day care centres, the logic of action of the research field of early childhood is followed and a methodological triangulation of ethnographic participant observation, biographical expert interviews and group discussions with a scientifically accompanied practice phase is aimed at. Eight day-care centres in four federal states (North Rhine-Westphalia, Lower Saxony, Saxony and Bavaria), which already have a pre-school programme, will serve as study settings. The cross-location and cross-regional research concept is intended to explore the various dimensions of future-oriented development scenarios and options for action for the implementation of gender-sensitive and gender-appropriate educational offers in child day care. At the same time, a scientific exchange of the results across the federal states is to be made possible. It is assumed that different regional and supra-regional infra-structures as well as the heterogeneous qualification offers and learning backgrounds of the pedagogical staff are decisive for the reflected mediation of gender-sensitive and gender-appropriate educational offers in early childhood. In order to be able to follow the organisational

structures of the field of action of early childhood, the educational professionals from the same day-care centres are interviewed by means of a group discussion.

2. The theoretical basis

The previous research findings on the topics of gender-conscious or gender-sensitive and gender-equitable upbringing and education in the German-speaking area point to a long tradition of this research focus (Rabe-Kleberg 2003; Kuger/Smidt/Sechtig (2014); Röhner 2007; Kubandt 2020:7; Kaiser 2020). The expertise of the German Youth Institute "Gender in Child Day Care Facilities" (Rohrmann 2009) and also the thematic focus "Gender" developed this year in the journal *Diskurs Kindheits- und Jugendforschung* (2020) illustrate the - albeit restrained - but unbroken research tendencies. Nevertheless, it cannot be said that there are sufficient findings and well-founded insights into the research field of gender in early childhood. In the German-language research discourse, studies and analyses have long been oriented towards the theoretical paradigms of gender-specific socialisation research, which focus on the study of developmental processes and conditions in early childhood (e.g. differences between boys and girls (Kubandt 2020:7). Similarly, although diagnoses of the status and condition of early gender inequalities and exclusions are highly relevant in early childhood research contexts (Kuger/Peter 2019), questions about renewed restabilisations of gender relations are not clarified (McRobbie 2016; Lenz 2017; Kalicki/Quenzel 2020:3). This finding is clearly visible in the results of social reporting (World Vision studies, child and youth reports, LBS child barometer, DJI child panel, BikS, K2ID-SoeP, NEPS; NUBBEK). The topic of educational motivation in early childhood is dealt with here, but not the "new maps of gender relations" (McRobbie 2016; Lenz 2017). Although the incorporation of gender-conscious education in the educational plans for early childhood or in the many projects to establish research opportunities in childhood (e.g. Haus der kleinen Forscher) (Röhner 2021) point to the high relevance of the topic of gender differences in early childhood, these research preferences have not led to a particular recognition of hierarchical gender relations becoming the subject of the projects or the training of professionals in early childhood (Schutter 2017; 2020).

Therefore, the long-standing debate about research results of empirical gender research on early childhood in the Anglo-American area (UK and USA) (Lareau 2000; 2011; Warin/Adriany 2015) should be taken up. In close connection with the research results of childhood studies and early childhood education, these should enable an examination of the educational and research motivations of girls in early childhood (Henschel 2020). This puts the question of the importance of successful conditions for gender-sensitive pedagogy in early childhood institutions to prevent gender selection on the agenda (cf. Magnuson/Kelchan et al. 2016). Evidence-based projects in Germany so far show good success in supporting offers for gender reflection in relation to everyday communication and interaction in day-care centres (Manning-Chechowicz et al. 2010; Rohrmann/Wanzek-Sielert 2018). However, it must also be noted that local studies in particular show the extent to which gender differences are replicated through the institutional selection and segregation mechanisms of early childhood education and guidance (Rohrmann et al. 2018; Kalicki/Quenzel 2020:3). Although these analyses have started a systematic discussion about which girls are reached by which offers, there is still a lack of research results on how changes in the composition of gender-specific expectations can sustainably change the individual spaces of girls and thus their early educational motivations.

Therefore, it can be stated that in German research, an analysis of the pedagogical contexts and strategies, mechanisms and potentials that can lead to the development of gender-sensitive educational motivations in early childhood, especially with regard to the development of "precursor competencies" for later participation in educational and academic cultures, has not yet been sufficiently carried out.

3. Single hypothesis and expected results

The aim of the research project is to analyse the significance of gender-sensitive interactions and constructions in the practices of professionals in child day care in terms of their effects on children's educational motivations and the possibilities of children's perception and shaping of their living environments.

It is based on the assumption that the central categories of social classification and differentiation in the conditions of growing up have not yet been conclusively analysed, which explain the interplay of institutional structures (here using the example of day care), potentials (children's agency, professionals' opportunities and strategies for action) and female academics' educational careers. Disparities due to asymmetrical gender relations in early childhood are an extremely complex phenomenon. Making female research achievements in early childhood visible also raises the question of the extent to which the cultures of early childhood institutions produce and perpetuate gender-differentiated behaviour. Based on the assumption that the gender role expectations conveyed by professionals strongly influence children's behaviour and the development of self-concepts, the tensions between authenticity and situational appropriateness in particular must be examined in terms of their effects on children's possibilities for action.

Based on the further assumption that researching women as role models and impulse givers can make statements about the interrelationships of the diversity of gender dimensions of meaning in their effects on the external conditions and internal forms of everyday pedagogical design in day care facilities for children, girls are to be given the opportunity to become acquainted with ways of making professional decisions in direct interaction and communication. Therefore, activities are to be developed that enable girls and professionals in child day care to interact in a gender-sensitive way in the context of their positive relationships. By making female research achievements visible already in early childhood, it should be possible to change the cultures (gender-specific interactions, contexts of action, social production processes) of the institutions. The aim is to sensitise the pedagogical staff to the construction, perpetuation and replication of gender differences in the long term.

Therefore, in this project proposal, the lack of visibility of the unequal distribution of life chances through gender practices is to be countered with practice-oriented intervention offers (local communities of responsibility for gender-sensitive promotion of educational motivation).

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