Educators' Use of Participation-Promoting Elements in Book Reading Situations with Toddlers and the Attitude of the Educational Professionals Toward Participation

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Abstract:

Pedagogical staff in daycare centers are responsible for providing children with comprehensive opportunities for participation, regardless of their age. The experience of self-determination and co-determination in children's everyday affairs as well as their participation in cognitively stimulating participatory interactions are considered particularly beneficial for their development. However, research results on the frequency of individual elements of these interaction formats are largely lacking, especially for toddlers. Therefore, the study recorded the presence of individual elements of participation-promoting linguistic interactions in a reading situation for 72 professionals working with toddlers. The study further examined whether these correlate with the professionals' attitudes toward participation. In 87.4 % of the reading situations, the educational professionals succeeded in showing epistemic markers as a significant element of cognitively stimulating and participation-promoting interactions. In contrast, professionals verbalized the mental states of others in only 29.9 % of the situations and their beliefs in only 2.3 % of the situations. The results also indicate that educational professionals tend not to agree with the pessimistic statements about participation. The study found a significant negative correlation between a pessimistic attitude toward participation and the frequency of interactions conducive to participation in addressing children's issues and orientation. Overall, this study provides evidence of professionals' use of cognitively stimulating elements that promote participation, such as the use of epistemic markers, the justification of speech acts, and the verbalization of inner states in the daily pedagogical work with children under 3 years of age. It also looks at the need for further professional development of ECEC staff.

Keywords:

Early childhood education
Participation
Book reading
Caregiver-child dialog
Teachers´ belief
Sustained shared thinking
In-service training

1. Participative professional-child interactions

In research into the effects of institutional care on children's development, participative and cognitively stimulating interactions are said to have a particularly beneficial influence on children's development. Concerning verbal behaviour, Sustained Shared Thinking (SST) has proven to be particularly beneficial for cognitive development [1,2]. Shared thought processes, understood as a dialogue format in which children are also explicitly granted a leading role, offer opportunities to actively participate in the interaction process and are therefore considered to stimulate participation [1,3,4]. This work is based on a definition of participation that focuses on children's self-determination and co-determination in everyday educational settings. Professional-child interactions play a central role here, giving children extensive opportunities to exert influence, particularly by articulating their own needs, ideas and opinions [5]. Based on this, the participatory perspective of SST is emphasized in this article. As an example of this, Siraj-Blatchford *et al.* (2002) and, in a further development, Hildebrandt *et al.* (2016) show methodological possibilities for how professionals can encourage children to make more of their statements through their own epistemically labeled statements [2,3]. If professionals mark their statements epistemically, thereby signaling a comparable status of their knowledge, children also make more assumptions of their own [3,6]. SST also offers opportunities to build on children's early ability to divide attention in a shared thought process [7] and promotes children's ability to change perspective [8–10]. The development of the ability to represent one's points of view in co-determination and negotiation processes and to understand and assess the views of others is supported [11]. Overall, SST is therefore considered a format that promotes participation as a 'central building block of democratic education' [5].

Non-linguistic formats that promote participation, in which professionals allow children to take an active role in leading the dialogue [12], are characterized in particular by linking to children's topics, questions, and interests, which promote the ability to think argumentatively and reason [13]. Studies on the frequency of cognitively stimulating and participation-promoting forms of interaction in everyday educational settings show that cognitively stimulating dialogues in particular [1,3,14–17] are very limited. For kindergarten children from the age of four, the results of Hildebrandt *et al.* (2016) show a higher proportion of speech in the form of children's epistemic markings in SST situations and more of their contributions and hypotheses [3]. In concrete terms, this means that when professionals specifically mark epistemically, for example by expressing their assumptions with adverbs such as 'perhaps' or verbs such as 'I think' or 'I believe' and combining them with the question 'What do you think, why?', children express more of their assumptions and speak more overall. For two and three-year-old children, however, the study revealed floor effects, which may be related to their language skills and their ability to adopt perspectives (and Theory of Mind). For reading situations and picture book viewing, findings indicate a moderately higher quality of stimulation than in unstructured settings, which, however, are at best in the lower-middle quality level [18,19]. As these findings mostly relate to children aged three and over, the need for further research into children of nursery age must be emphasized at this point, which also applies to the investigation of children's speech contributions in SST situations [3]. Similarly, central elements of verbal and non-verbal cognitively stimulating and participation-promoting behaviour that have a positive effect on child development have so far only been mapped (individually) to a limited extent in the measurement instruments, resulting in a need for further research to look at these more specifically.

2. Attitudes of educational professionals toward participation

Subjective perceptions and attitudes influence the actions of educational professionals and therefore appear to be a central facet of pedagogical competence in pedagogical action [20–23] and thus have an impact on interactions with children [2,24]. With regard to attitudes towards cognitively stimulating interactions, initial results are available in German-speaking countries, in which professionals primarily emphasize the social-emotional components in stimulating interactions as significant elements and thereby place methods of cognitively stimulating interaction, such as open question formats, in the background [25]. In a

further qualitative study by Pölz-Stefanec *et al.* (2020) to make visible the orientation knowledge of educational professionals regarding participation that is habituated in practice, orientation patterns were identified that appear to guide their actions [26]. Depending on which image of the child was pursued, whether passively in need of help or competently self-organizing and which possibilities for change professionals themselves had in the team, participation-promoting action was shaped. However, there are still no comprehensive results on the implementation of participation and its influences in daycare centers that explicitly refer to orientations and attitudes.

3. Research questions

Against the background of existing research desiderata on the concrete nature of participatory and cognitively stimulating interactions in a picture book viewing situation between educational professionals and crèche children, the focus will be on the description of individual elements that have been found to promote development in broad-based studies [2]. In addition, based on research findings [27] that attribute an action-guiding role to orientations, the present study aims to investigate whether a low presence of individual elements in the book viewing situation is related to negative attitudes of professionals toward participation. Since it is assumed that many years of practice could have a positive influence on the competencies of professionals [28], it is examined whether any correlation is maintained even when controlling for the variable 'length of professional practice.'

3.1. Method

The data for this sub-study comes from the study 'Participation of Children in Everyday Daycare (BIKA),' in which the realization of participation of daycare children in everyday daycare was empirically investigated [5], the data for this study was collected between January and August 2019. To answer the questions, a multi-method cross-sectional design was chosen in which the key situation of looking at picture books with children under the age of three was recorded. Secondly, the attitudes of educational professionals towards participation in the context of early childhood education were determined

using a questionnaire. A total of 89 daycare centers across Germany were surveyed after ensuring that the social environment was evenly distributed

Social environment was randomized according to east-west regions and urban-rural regions. Data on attitudes towards participation are available from 236 professionals. Data from 72 educational professionals (94.4 % female and 5.6 % male) are available in the form of one video per person for the correlation analysis between pessimistic attitudes towards participation and participative interaction quality in picture book observations that lasted ten minutes. On average, four children between the ages of 1.5 and 2.5 were present, with the number changing constantly as children flexibly joined and left. Professionals were not given any specific instructions, they were simply asked to look at the picture book with the children, as they usually do.

3.2. Instruments

To analyze the elements of participatory action shown in the book observation, the BiKA team designed a picture book that was only presented directly at the time of the observation. The ten-page book shows simple, independent sequences of events, which are also accompanied by short sentences describing the picture. The pictures are chosen in such a way that, in addition to a descriptive dialogue, they also offer the opportunity to pick up on the inner mental processes (emotions, intentions, beliefs) of the people depicted and to explain causalities or to link the events in the pictures with the children's experiences. The Electronic Supplement (ESM 1) contains examples of pages from the book for further illustration. To analyze the book situation, an empirically derived video evaluation tool (ISARSET with coding scheme and manual) was developed that quantitatively records situation-specific participation quality in professional-child interactions. Two trained tandem partners initially analyzed the material independently in the event of deviations from each other, sequences were intensively reviewed again and finally evaluated by consensus. The 'book contemplation' scale was used for this study, with further parts relating to the settings of eating and playing. The twelve items are rated on a two- or three-point scale ('strongly disagree' - 'partly agree' - 'agree') (**Table 1**). Overall, the extent to which the book-

viewing situations are conducted in a participatory and cognitively stimulating manner was assessed.

To record the attitudes of professionals, six negatively formulated items on educational goals that inhibit or promote participation were summarized using a five-point scale ('disagree' to 'strongly agree') ('Pessimistic attitude towards participation' scale, see **Table 2**; Cronbach's alpha = 0.767; taking into account only the data sets included in the correlation analysis, the following measure of internal consistency results: Cronbach's alpha = 0.688; n = 72). Only people who rated all six items of the 'Pessimistic attitudes' scale were considered. A normal distribution is assumed for the scale (p = 0.074; Shapiro-Wilk). Professional experience was recorded according to the duration of relevant professional activity as a specialist in child daycare institutions.

3.3. Analysis procedure

The analysis of the video material on the participatory professional-child interactions was realized in fixed rating tandems based on the evaluation forms and the evaluation manual of the ISARSET instrument. To guarantee the quality of the observation ratings, all assessors completed basic training on the instrument beforehand. The individual sequences were initially rated independently of each other by two tandem partners. The individual values of the items were then checked for consistency, with the material of inconsistent values being reviewed again in a four-eyes principle to reach an objective agreement in the discussion. The resulting tandem values form the basis for further analyses. The degree of agreement of 0.7 (Fleiss Kappa) between the tandems in the book-viewing situation assessed with ISARSET can be regarded as good [29] or substantial [30]. The data analysis was carried

Table 1. Educator-child interaction in the book-viewing situation

	Does not apply	Partially applies	Applies
The children			
Have sufficient time and opportunity to speak after FK impulse min. 3s (0 times = 0; 1–4 times = 0.5; > 4 times = 1)	3.4%	24.1%	72.5%
Have enough time to view and speak after turning the page min. 5s (0 times = 0; 1–4 times = 0.5; > 4 times = 1)	65.5%	31.0%	3.4%
Are encouraged by the FK to think the story further (0 times = 0; > 1 times = 1)	12.6%	-	87.4%
The teacher			
Follows the children's focus by linguistically building on thematic impulses from the thematic impulses of the children (0 times = 0; 1– 4 times = 0.5; > 4 times = 1)	6.9%	37.9%	55,2 %
Linked to children's experiences (0 times; 1 time = 0; > 2 times = 1)	21.8%	-	78.2%
Leaves the children's actions including speech unrated. (Number of FK assessments: > 4 times = 0; 1–4 times = 0.5; 0 times = 1)	82.8%	14.9%	2.3%
Uses epistemic markers (e.g. 'I believe ...', 'I think ...',' maybe ...', "definitely ...") (0 times; 1 time = 0; > 2 times = 1)	12.6%	-	87.4%
Justifies own organizational speech acts predominantly. (sometimes; never = 0; always = 1)	59.8%	-	40.2%
Makes non-organizational justification contexts linguistically comprehensible (0 times; 1 time = 0; > 2 times = 1)	48.3%	-	51.7%
Talks about the inner world of the protagonists in the book and thematizes it:			
Their intentions/wishes/needs (0 times = 0; > 1 times = 1)	29.9%	-	70.1%
Their emotions/emotions. expressions (0 times = 0; > 1 times = 1)	70.1%	-	29.95
Their beliefs (0 times = 0; > 1 times = 1)	97.7%	-	2.3%

out using the statistical program SPSS Version 20.0 [31].

4. Results

4.1. Occurrence of interactions conducive to participation in the dialogue-based book-viewing situation

The following is particularly striking for the videotaped picture book viewings, which lasted an average of ten minutes, with a focus on children aged 1.5 and 2.5 years old. In 87.4% of the situations, educational professionals used epistemic markers such as 'I think' or 'maybe' at least twice in speech acts during the book viewing. The pedagogical professional addressed the intentions, wishes and needs of the characters in the book at least once in 70.1% of the dialogues. However, in comparatively fewer cases, the emotions of the characters in the book were verbalized once (29.9%) and to a very small extent, the convictions of the characters were addressed at least once (2.3%).

The occurrence of non-linguistic interactions that promote participation can be described as follows: A majority of the children (observed in 72.4% of the dialogues) had sufficient time (at least three seconds) and opportunities to speak after an impulse from the educational professional at least five times during the observed book viewing; in 24.1% of the cases, children were allowed to do so one to four times during the entire observation period. However, in 65.5% of the dialogues, children did not have the opportunity to look at the pages of the book in peace (at least five seconds) after turning them to reflect and also to speak first before the professional spoke. Only in 3.4% of the sequences were the children given this opportunity to participate at least five times.

4.2. Attitude of educational professionals towards participation

As shown in **Table 2**, the calculation of the mean value (Mean = 0.32; SD = 0.21) of the 'Pessimistic attitudes' scale shows that educational professionals tend not to agree with the pessimistic statements about participation. The majority do not believe that there is chaos when children are allowed to participate (76.7 %). Around half of the professionals think that children do not yet know what is good for them (43.6%) and need certain skills (51.9%) for participation in work.

4.3. Connection between pessimistic attitudes and interactions that promote participation in the picture book-viewing situation

The pessimistic attitude towards participation is significantly negatively related to the ISARSET item 'The specialist follows the children's focus by linguistically

Table 2. Pessimistic attitude towards participation

	Agree (somewhat + strongly) disagree	Agree partly - partly agree	Agree (somewhat + completely)	*n*
Overall scale: Mean = 0.32, SD = 0.21 (disagree: 0; partly agree: 0.5; agree: 1)				
Above all, there is chaos when children are allowed to participate in decision-making.	76.7%	19.4%	3.9%	232
Participation is great, but it only works with children who already have the relevant skills.	48.1%	22.9%	29.0%	231
Children are not yet able to negotiate group decisions.	62.4%	23.3%	14.3%	223
Young children don't know what's good for them, so you have to make the decisions for them.	56.5%	35.8%	7.8%	232
It is impossible to reconcile the different wishes of many children, so I have to decide as an educator.	29.4%	46.8%	23.8%	231
Participation sounds nice, but the individual the individual can't influence anything anyway.	79.2%	16.9%	3.9%	231

expanding on the children's thematic impulses' (Spearman's correlation coefficient: ρ = -0.366, *p* < 0.01; *n* = 72). If the attitude is more pessimistic, there is therefore also less behaviour that promotes participation with regard to picking up on children's topics when looking at picture books. This correlation proved to be significant after Bonferroni correction (0.05 / 12) and also after controlling for the professional experience of the educational professionals (ρ = 1).

professionals as significant (ρ = -0.367, *p* < 0.01; *n* = 72). For the items 'Children have enough time and opportunity to speak after the FC impulse' (ρ = - 0.113, *p* = 0.349), 'Children have enough time to look at the story and have their say after turning the page' (ρ = -0.289, *p* = 0.015), 'Children are encouraged by the FC to continue thinking about the story' (ρ = -0.074, *p* = 0.537), 'Educator links to children's experiences' (ρ = -0.118, *p* = 0.325), 'Educator leaves the children's actions, including speech acts, unevaluated' (ρ = 0.031, *p* = 0.797), 'Educator uses epistemic markers' (ρ = -0.174, *p* = 0.147), 'Educator predominantly justifies own organizational speech acts' (ρ = -0.199, *p* = 0.096, 'Educator makes non-organizational justificatory contexts linguistically comprehensible' (ρ = -0.107, *p* = 0.372) and 'Educator talks about the inner world of the actors seen in the book and addresses their intentions, wishes, needs (ρ = -0.041, *p* = 0.736) or their emotions or emotional expressions (ρ = -0.171, *p* = 0.155) as well as their beliefs (ρ = 0.059, *p* = 0.626)', no significant correlations were found.

5. Discussion

This study has succeeded in using the everyday situation of looking at picture books to demonstrate the interactions experienced by crèche children that promote participation and stimulate cognition. For the first time, an attempt was made to operationalize central interaction elements of the broad construct SST and to map them individually in the instrument used. In particular, the theoretical emphasis on the participatory perspective of cognitively stimulating interaction and thus of SST is essential. Concerning the linguistic design of the ten-minute book observation, it is striking that professionals gave reasons for their statements and intentions more frequently (in 51.7% of situations) than in other settings of everyday pedagogical

life, such as in mealtime situations (4%) or 21% during play [5]; measured for ten minutes. This finding is noteworthy insofar as the early development of autonomy can be supported by 'socialization' [32] into the language practice of reasoning by educational professionals.

However, other indicators that are considered to be particularly conducive to participation, such as the thematization of the mental states of the actors in the book, were only shown to a very limited extent. Although the selection of images and stories in the book was intended to particularly trigger the professionals to use expressions for mental attitudes, the majority of professionals did not address these. This included the fact that an extremely small proportion of professionals emphasized the beliefs of characters in the book or verbalized them at all. The opportunity to encourage children to recognize emotions and change perspective by addressing mental states and making subjective perspectives visible was not used [11]. Limiting factors here, however, are the developing understanding of complex sentences for the age group of crèche children and also the Theory of Mind skills (development between the ages of three and five), especially with developmentally appropriate specialist input, which should ideally be in the zone of proximal development. However, in the present study, professionals showed an essential SST element, the labeling of their epistemic status, surprisingly frequently. Epistemic labeling is considered a significant indicator for supporting hypothesis formation in children [3,33] and supports the child's provision of reasons, which is relevant for the development of autonomous thinking. It must be emphasized that previous findings in this regard focus on the interaction environment of older children and it should therefore be examined whether the named strategies in the sense of SST are also conducive to participation for younger children, where children of this age react to professional statements with their assumptions should also be investigated.

The results regarding the orientations of the professionals show that the majority of educational professionals are generally at least partially in favour of children's participation. However, when asked specifically, in 48.1% of cases the professional linked the participation of children to the existence of certain child characteristics, such as knowledge of their needs

or certain competences that should be present for participation to work. This can be compared with findings from one of the first qualitative studies conducted on this topic by Pölzl-Stefanec *et al.* (2020), who were able to identify the limits of participation in relation to children's characteristics as an elementary topic area for educational professionals [26]. The correlation found between the participation-orientated attitudes of educational professionals and the element 'taking up the children's thematic focus' shown when looking at picture books indicates that attitudes and orientations are generally related to the direct design of everyday pedagogical work. No significant correlations were found for the other items. This is in line with previous results, which are also inconsistent [34–36], as named correlations could not be clearly found there either.

There is a large research gap concerning researching attitudes towards participation of professionals and their effects, particularly in the childcare center sector. The present study was a first attempt to define indicators for successful participation-orientated action based on children's rights and derived from theoretical considerations on self-determination and co-determination, and to combine these with elements of cognitively stimulating interaction. The results can therefore provide an impetus for further considerations towards an empirically validated theory of professional participation-oriented competencies of early childhood education staff, which also includes central motivational-affective aspects in the form of orientations and convictions of educational professionals. Theoretical considerations should include target dimensions of child development such as the development and recognition of autonomy, the ability to change perspectives and to rationally justify one's own actions [5]. It should be noted as a limitation that the design of the study does not allow any explanations of causalities. As a model for describing quality that includes participation is still largely lacking, quality can only be localized here to a limited extent.

Participation should be a comprehensive component of the training curricula of technical colleges and universities and should be increasingly anchored as an essential educational objective in the educational plans of the federal states, as well as being part of the further education and training of professionals, at best at a team level. To develop a professional attitude, an even closer look can be taken at one's biography to analyze and reflect on existing practices [37] and initiate changes. This can be flanked by ongoing action practices such as cognitively stimulating and participation-promoting dialogue formats and the analysis of one's own interactions via videography to accompany the process. Further research should also focus on the impact of participatory and cognitively stimulating interactions on the children and their speech acts to further investigate indications [3,6,33,38] of the positive effects of corresponding interaction formats. Recent research findings by Cusati Müller (2021) focus on children's characteristics [4]. It explicitly investigated children's access to and thus participation in cognitively stimulating interactions with professionals. Results indicate that child characteristics such as the construct of temperament investigated there appear to influence participation in SST formats. Following this, a coherent consideration of the children's access, their participation in the dialogue, the professionals' statements and the children's reactions can further penetrate the construct of an interaction environment conducive to participation.

Disclosure statement

The authors declare no conflict of interest.

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