

SUPPLEMENTARY MATERIAL

Supplementary Material A: A translation of the educator questionnaire is provided here. The questionnaire contains questions regarding demographic information and three sections assessing vocabulary (Part 1), grammar (Part 2), and communication (Part 3). Part 1 to 3 are not analyzed for the purpose of this paper and therefore, not presented here.

Questionnaire on child language development

(for educational professionals)

General information

Child's name: _____

Gender: ☐ girl ☐ boy

Date of birth: ____/____/____

Today's date: ____/____/____

Name of kindergarten:

Name of kindergarten group:

Does the child receive any special educational support/therapy? ☐ yes ☐ no

If YES, please provide details in keywords:

Has the child been diagnosed with permanent hearing loss? ☐ yes ☐ no

If YES, please provide details below:

right ear:

left ear:

Degree of hearing loss in dB		
Supply with hearing aid (HA) or cochlear implant (CI)	HA ☐ CI ☐ since _____	HA ☐ CI ☐ since _____

Additional information:

Does the child have physical disabilities, chronic diseases or other permanent impairments? ☐ yes ☐ no

If YES, please provide details in keywords:

Does the child grow up multilingual? ☐ yes ☐ no

If YES, please indicate all languages here:

If YES, since when has the child been learning German? (Example: since 05/2014):

Important! The assessment should be carried out by a person who has known the child **very well for at least 3 months**. The first and second assessment should be done by the **same person**.

Supplementary Material B: The coding scheme used for video data analyses presented in this paper and instructions for coding. This scheme was motivated by DeLuzio & Girolametto (2011). Please note that additional information in the videos were coded but not analyzed for the purpose of this paper and these categories are, therefore, not presented here.

Coding procedure

The coders coded according to the following instructions:

Start the movie at minute 30 with the play button. Create an event with the buttons "start new event" or "end this event" (starting and ending an event can also be done using the space bar: press once to start and once to end): Events start and end according to the attention criterion. If the focus child turns its attention to another child/an educator, the event begins; if it turns its attention to something/someone else, the event ends.

If the focus child speaks (e.g. when painting, playing, building) but no one responds, it is still an event for this child, which then ends with "ignore".

- a. In one-to-one situations, the events can be very long and contain several speech acts; in small group situations, many short events can occur if attention frequently switches from one cooperation partner to another.
- b. If a long interaction is interrupted because someone from outside interrupts two children playing, for example, the event of the originally interacting children ends here and a new event with the person who has joined them begins. The new event ends when the new person leaves or the focus child turns their attention away from the distraction. If the two children then resume the original interaction, a new event is created again. If the focus child does not respond to the distraction at all, but their original interaction partner does, the original event also ends, but without the focus child immediately starting a new one. The focus child then has no event until its interaction partner "comes back to it" or it starts another interaction.
- c. Ongoing events are not interrupted because a group member joins, because the context changes during the event or because the behavior of the professional changes, as long as the interaction between the focus child and the interaction partner continues. At the end, the new group members must be added, the context is selected so that it matches the main part of the event and several codes can be selected for the behavior of the professional.
- d. Through joint interaction, the children involved have an event at the same time. If you later change the focus child, the shared events should be transferred from the first focus child to the new focus child based on the times so that the events match. To do this, an event is created and the coding chain is processed. The time is then entered manually according to the event for the first focus child. Caution: Do not simply transfer interaction partners etc., as this new event is a mirror image.

Once an event has been created, the coding chain is processed (selection can be made either with the mouse or with a keyboard shortcut):

	Class	Code	Explanations/ Examples
1	Child	Code of the child in focus	
2	Play Activity	Block building	
		Romping/dancing/gymnastics	
		Reading aloud	
		Role play	
		Painting/crafting/puzzling	
		Board/rule game	
		Exploring a toy	
		Conversation	
		Setting up/removing/putting away	
		Resting/lying down	
		Moving through the room	
		Other	
3	Interaction partner	Code of the child	Code of the direct interaction partner, whose interaction with the child in focus produced the interaction if this partner is a child.
		Code of the educator	Code of the direct interaction partner, whose interaction with the child in focus produced the interaction if the partner is an educator.

As soon as the coding chain for the selected event is complete, the window with the codes for the focus children opens. Next, a new event must be created for the focus child, then the coding chain for the new event is run through again from the beginning by clicking on the code for the focus child.

The coding for a focus child ends at minute 40 of the recording. Events that start before minute 40 and would go beyond minute 40 end at minute 40 and are coded in this way. For the next focus child, the corresponding coding is started in the next set.

Coding comparison for focus children that are difficult to code: Mark the children and have them recoded by the other coder to compare the kappa values and correct them if necessary.