DFG-Graduate College INTERFACH "Subject-Specific Learning and Interaction in Elementary School "

ID: 2053

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INTER FACH **Interactional Adjustment Practices of Teachers in Linguistically Diverse Mathematics Classes**

Background & Theoretical Framework

- > Classroom talk offers a twofold learning context for subject and language learning (Quasthoff et al. 2022). To enable learners to benefit more from classroom talk in linguistically diverse settings, teachers face the need to respond to "social, linguistic, cultural, and instructional needs" of learners (Parsons et al. 2018).
- > However, most studies focus on adjusting lessons according to learners' needs during lesson planning and little is known about how teachers make adjustments according to learners' "in the-moment contributions" (Boyd 2012).

Objective

To investigate teachers *interactional adjustments* in classroom talk with a specific focus on so-called *divergences* in interaction.

Definition: *divergence*

the discrepancy between teachers' demands in classroom talk and learners' answers.

Definition: *interactional adjustments*

teachers' instantaneous modifications to steer learners to their demands.



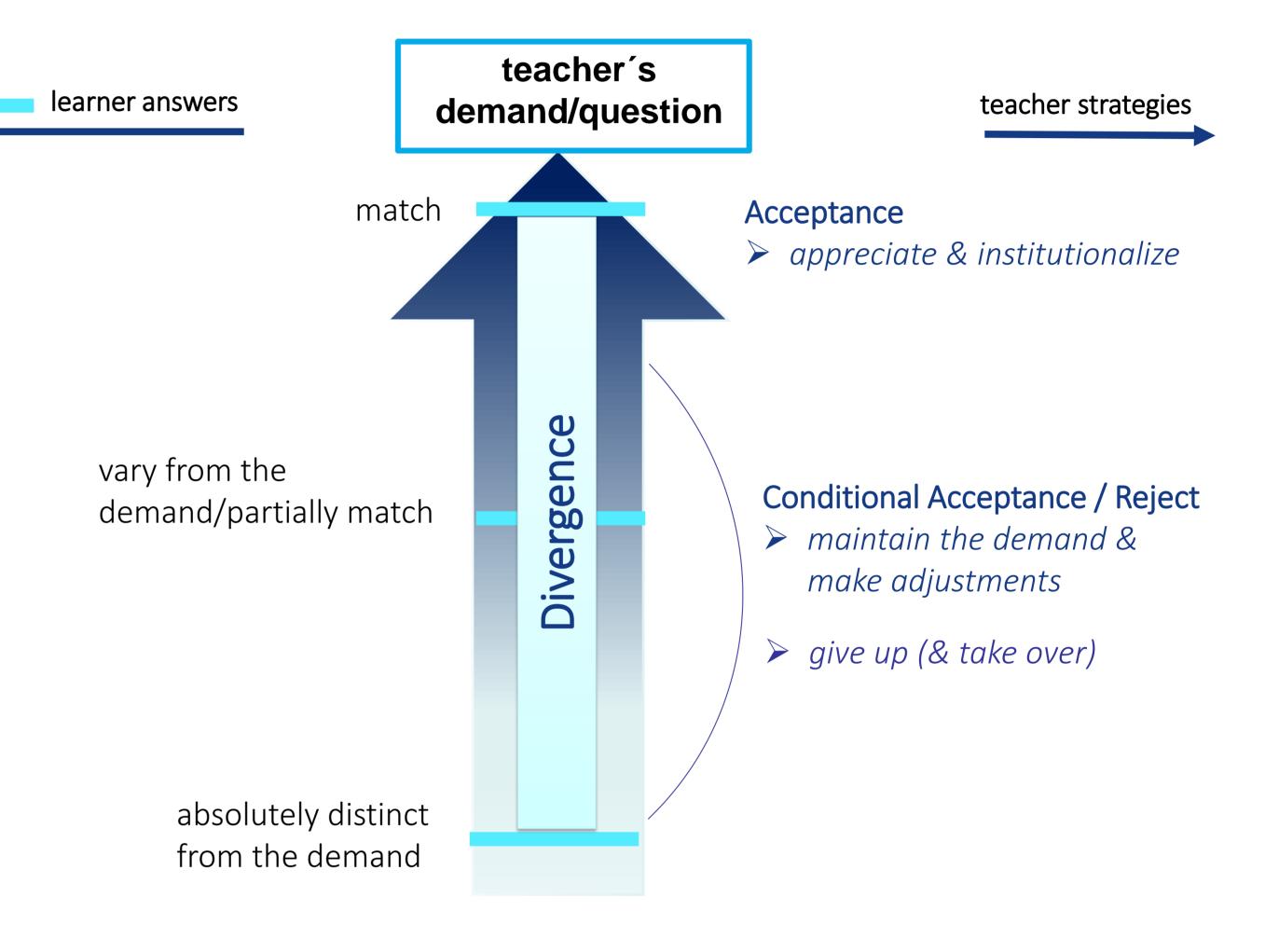
- fine-tuning ((Morek/Heller 2020) \bullet
- teachers' procedure for dealing with appropriateness of learners' utterances (Leßmann 2021)



- dialogic teaching (Alexander 2018)
- discourse-acquisition-oriented classroom talk (Heller & Morek 2021)
- academically productive talk (Michaels et al. 2013)
- accountable talk (Resnick et al. 2015)
- exploratory talk (Barnes 2008)

general adjustments

- scaffolding approaches (Gibbons 2015):
- whole-class scaffolding (Smit et al. 2013) & micro-scaffolding (Wilmann 2023)
- adaptive teaching (Parsons et al., 2018):
- *micro-adaptive teaching* (Gallagher et al., 2020) & *macro-adaptive teaching* (Prediger et al. 2022)
- thoughtfully adaptive instruction (Boyd 2012) \bullet
- in-the-moment decision making (Boyd 2012) & teachers' micro-decisions (Schmitt 2011)



Methods



Study Design: exploratory qualitative design





Data Analysis:

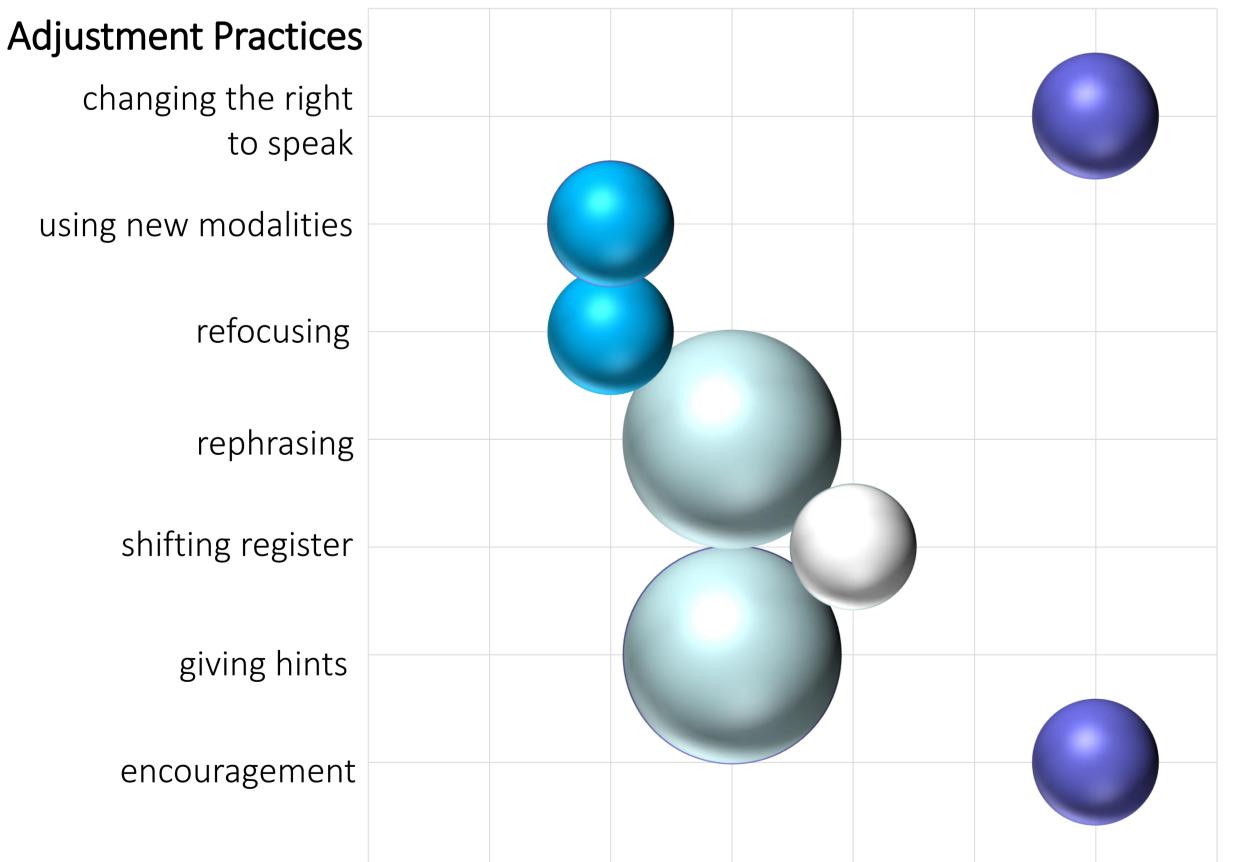
turn-by-turn conversation analysis

Sample: 3rd grade classrooms with large numbers of immigrant children

Research Instruments:

- video-based classroom observations
- classroom observations with audio records & observation protocols

Preliminary Results



• the joint action theory in didactics framework

1- identifying teaching practices for divergent moments with inductive categorization. 2- categorizing teaching practices with respect to their focus and degree of adjustment

Adjustment Domains

- Classroom organization: modifications in interaction setting /interaction form
- Language: reducing or increasing language and discursive demands & providing support to meet linguistic demands
- Content: modifications related to learning object/subject focus

Adjustment Practices

- **Changing the right to speak:** when a student can not comply with the demand, the turn is given to another student instead of providing help.
- **Using new modalities:** explaining the verbal demand in different forms (e.g written) or with different artefacts ("message abundancy" Gibbons 2015).
- **Refocusing**: reminding the question, drawing attention to certain aspects to initiate student-repair.
- **Rephrasing:** teachers' repeating the same question/instruction by formulating it in different ways.
- **Shifting register:** Student contributions in everyday language are reformulated by switching into academic register.

Encouragement: saying positive things such as *trust yourself, you can do this* to

• Giving hints: showing students a way or providing strategies to to fulfill the demand.

Adjustment Domains classroom language content

organization

References

Alexander, R. (2018): Developing dialogic teaching: genesis, process, trial. Research Papers in Education

Barnes, D. (2008). Exploratory Talk for Learning. In N. Mercer, & S. Hodgkinson (ed.), Exploring Talk in School. SAGE

Boyd, M. P. (2012). Planning and Realigning a Lesson in Response to Student Contributions: Intentions and Decision Making. The Elementary School Journal, 113(1), 25–51.

Erath, K., Ingram, J., Moschkovich, J., & Prediger, S. (2021). Designing and enacting instruction that enhances language for mathematics learning: a review of the state of development and research. ZDM – Mathematics Education, Linguistics 5–262.

Heller, V., & Morek, M. (2021). Inklusive Schule und Schulentwicklung aus sprachdidaktischer Perspektive: Fachliche Unterrichtsgespräche diskurserwerbsförderlich gestalten Rubrik: Praxis. Gallagher, M. A., Parsons, S. A., & Vaughn, M. (2020). Adaptive teaching in mathematics: a review of the literature. Educational Review, 1–23.

Gibbons, P. (2015). Scaffolding Language Scaffolding Learning. Heinemann.

Leßmann, A. (2021). Unterrichtsinteraktion in der Grundschule - Sequenzielle Analysen zur Ko-Konstruktion von Angemessenheit zwischen Lehrenden und Lernenden. Stauffenburg. Michaels, S., O'Connor, M., Williams Hall, M., Resnick, L. (2013): Accountable Talk Sourcebook. For Classroom Conversation that Works. Institute for Learning. University of Pittsburgh. Morek, M., & Heller, V. (2020). Überlegungen zur Professionalisierung für unterrichtliche Gesprächsführung: (Wie) Können Lehrkräfte diskurserwerbsförderliches Lehrerhandeln lernen? In F. Schmidt, & K. Schindler (ed.), Wissen und Überzeugungen von Deutschlehrkräften. Aktuelle Befunde in der deutschdidaktischen Professionsforschung. (S.227-243). Peter Lang.

Parsons, S. A., Vaughn, M., Scales, R. Q., Gallagher, M. A., Parsons, A. W., Davis, S. G., Pierczynski, M., & Allen, M. (2018). Teachers' Instructional Adaptations: A Research Synthesis. Review of Educational Research, 88(2), 205-242.

Prediger, S., Quabeck, K., & Erath, K. (2022). Conceptualizing micro-adaptive teaching practices in content-specific ways: Case study on fractions. Journal on Mathematics Education, 13(1), 1–30. Resnick, Lauren B., Christa Asterhan, Sherice N. (eds.). 2015. Socializing intelligence through

Smit, J., van Eerde, H. A. A., & Bakker, A. (2013). A conceptualisation of whole-class scaffolding. British Educational Research Journal, 39(5), 817-834.

Quasthoff, U., Heller, V., Prediger, S., & Erath, K. (2022). Learning in and through classroom interaction: On the convergence of language and content learning opportunities in subject-matter learning. European Journal of Applied Linguistics, 10(1), 57–85.

Willman, M. (2023) Mikro-Scaffolding in Vorbereitungsklassen. Göttingen: Verlag für Gesprächsforschung.

encourage learners to fulfill the demand.

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