



OPEN ACCESS

EDITED AND REVIEWED BY
Stephanie M. Carlson,
University of Minnesota Twin Cities,
United States

*CORRESPONDENCE
Henrike Moll
✉ hmoll@usc.edu
Douglas Frye
✉ dfrye@upenn.edu

RECEIVED 04 September 2025
ACCEPTED 22 September 2025
PUBLISHED 09 October 2025

CITATION
Moll H, Qiu FW, Bazhydai M and Frye D (2025)
Editorial: Children's teaching.
Front. Dev. Psychol. 3:1699342.
doi: 10.3389/fdpys.2025.1699342

COPYRIGHT
© 2025 Moll, Qiu, Bazhydai and Frye. This is
an open-access article distributed under the
terms of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that the
original publication in this journal is cited, in
accordance with accepted academic practice.
No use, distribution or reproduction is
permitted which does not comply with these
terms.

Editorial: Children's teaching

Henrike Moll^{1*}, Fanxiao Wani Qiu¹, Marina Bazhydai² and
Douglas Frye^{3*}

¹Department of Psychology, University of Southern California, Los Angeles, CA, United States,
²Department of Psychology, Lancaster University School of Computing and Communications,
Lancaster, United Kingdom, ³Graduate School of Education, University of Pennsylvania, Philadelphia,
PA, United States

KEYWORDS

pedagogical cognition, shared intentionality, teaching–learning, child development,
cultural evolution, social cognition

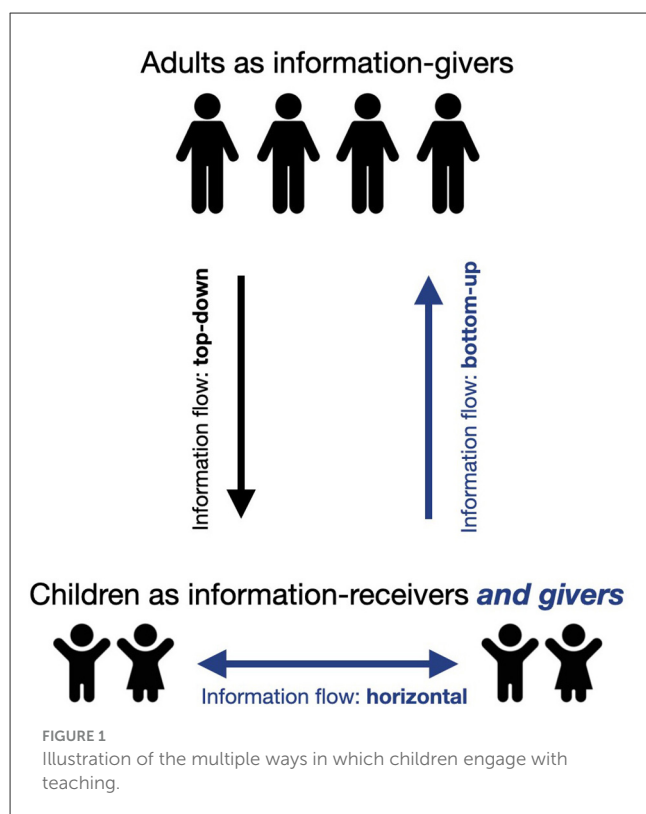
Editorial on the Research Topic Children's teaching

When we think of teaching, our thoughts quickly jump to the occupation of the teacher: we imagine an adult instructor in a classroom passing on knowledge to a group of pupils. With such a narrow view of teaching, it is not apparent why fundamental research in child development should concern itself with the emergence of a pedagogical mindset—after all, only a small minority of children grow up to become professional teachers. To see the merit of studying the development of pedagogy, we need a notion of teaching that covers a much wider terrain and recognizes just how varied human teaching interactions are. In “The Culture of Education,” Bruner (1996, p. xi) reminds us that, “Education does not only occur in classrooms, but around the dinner table when family members try to make joint sense of what happened that day, or when kids try to help each other make sense of the adult world, or when a master and apprentice interact on the job.” Teaching, we can say, is a transaction between individuals which aims at expanding the knowledge (practical or theoretical) or understanding of some—and this can mean “all”—of its participants.

This broader conception helps us to see that teaching, unlike institutionalized schooling, is a human universal, and also that it occurs in varied settings (e.g., playgrounds, grocery stores) and interpersonal constellations. It is this last point that motivates investigations of the kind compiled in this Research Topic. Knowledge does not only flow “top down,” from adult to child. It also spreads horizontally between children and even runs “bottom up,” from child to adult (Qiu and Moll, 2022, see Figure 1). A child of adult immigrants helping their parents to understand the host culture's rituals and customs is as much engaged in teaching as is a parent showing their child how to properly hold and twist a screwdriver.

The articles in this Research Topic give clear evidence that children, from a young age, have a remarkable ability to identify good teaching and are themselves skilled at teaching. Karadag et al. examined selective information-transmission in the understudied age of toddlerhood. Two-year-olds preferred showing a naïve learner object functions they had learned from an adult over ones they had discovered by themselves. A comparison group of 5-year-olds were equally likely to demonstrate taught and discovered information—indicating previously unrecognized ontogenetic changes in children's pedagogical choices.

Bass et al. tested 3- to 8-year-olds' reasoning about the quality of teaching, in particular their detection of mechanical or rote teaching. Theory of mind predicted children's ability to identify such teaching in adults, and children who skillfully spotted mindless teachers were more discriminant in following a tutor's deliberate demonstrations but not their accidental behaviors. This study contributes to our understanding of learners' sensitivity to the quality, and in particular the intentionality, of acts of teaching.



Ye et al. demonstrated that the development of children's teaching is related to mental state reasoning and reflects culturally bound pedagogical styles. The authors compared the use of verbal, contrastive ("do x, not y") and contingent (addressing a learner's specific mistake) teaching methods by 3- to 7-year-olds from American, Chinese traditional and Westernized preschools. Reflecting the West's learner-centered approach to pedagogy, children from American and Westernized Chinese preschools used more verbal and contingent teaching styles than students from the traditional Chinese school system.

Bowman-Smith et al. investigated children's teaching of social robots. Learner mistakes not only elicited more teaching, but children who taught robots that made unexpected or atypical mistakes (errors on previously learned material) benefited more from their teaching than those who taught robots that made typical mistakes (errors on novel material) or none at all. This study brings important insights into children's sensitivity to the learner's knowledge state, demonstrates how the "learning-by-teaching" process extends even to nonhuman agents, and is particularly timely given current advancements in artificial intelligence.

The findings from these papers provoke a re-evaluation of how we conceive education and cultural evolution. Dominant theories from the learning sciences emphasize how educable and "culture-absorbent" children are, but they usually fail to recognize children's *productive*, over and above their *receptive*, contribution to education and cultural evolution (Lew-Levy and Amir, 2025). Children's bilateral involvement with teaching harmonizes with the shared intentionality thesis (Tomasello, 2020). According to this thesis, participation in cooperatively structured activities (give-take, speak-listen, throw-catch, etc.) leads to "perspectival cognitive

representations," which represent the transaction not just from one's own role but simultaneously from the complementary role of one's interaction partner. Applied to teaching, children internalize the teacher's stance toward them and understand the exchange from both points of view, that of the learner and the teacher—allowing them to reverse roles and return the favor of teaching.

We close by pointing out three promising directions for future research. One concerns the significance of children's knowledge of teaching for their cognitive growth. Do we know that children's insights into pedagogy are not just trivial information but meaningful for their learning? Bowman-Smith et al.'s study and work by Jeong and Frye (2018) with Korean students suggests this is so, but more research is needed to substantiate that children's understanding of teaching impacts their learning. Second, the study of children as teachers remains incomplete without rigorous longitudinal work documenting developmental change in children's use of strategies, the expansion of their behavioral repertoire, and selectivity in information transmission. Third, children's thoughts and feelings about AI in education ought to be explored in depth. The difficult task of responsibly guiding, and limiting, the reliance on AI in childhood education will be easier if we better understand children's attitudes and expectations regarding AI assistance.

Author contributions

HM: Writing – review & editing, Writing – original draft. FQ: Writing – review & editing, Writing – original draft. MB: Writing – original draft, Writing – review & editing. DF: Writing – review & editing, Writing – original draft.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Bruner, J. (1996). *The Culture of Education*. Cambridge, MA: Harvard University Press. doi: 10.2307/j.ctv136c601
- Jeong, J., and Frye, D. (2018). Explicit versus implicit understanding of teaching: does knowing what teaching is help children to learn from it? *Teach. Teach. Educ.* 71, 355–365. doi: 10.1016/j.tate.2018.02.002
- Lew-Levy, S., and Amir, D. (2025). Children as agents of cultural adaptation. *Behav. Brain Sci.* doi: 10.1017/S0140525X24001377
- Qiu, F. W., and Moll, H. (2022). Children's pedagogical competence and child-to-child knowledge transmission: Forgotten factors in theories of cultural evolution. *J. Cogn. Cult.* 22:5. doi: 10.1163/15685373-12340143
- Tomasello, M. (2020). The role of roles in uniquely human cognition and sociality. *J. Theory Soc. Behav.* 50, 2–19. doi: 10.1111/jtsb.12223