

Teachers Observe to Learn

Differences in Social Behavior of Toddlers and Preschoolers in Same-Age and Multiage Groupings

Mary Ellin Logue

Two-and-a-half-year-old Angela skips onto the playground, pulls her skirt high, and announces, "See my underpants!" Four-year-old Sarah looks up, shakes her head, and replies, "You're a toddler, Angela. Toddlers wear diapers."

Four-year-old boys work together to dig a ditch. Nikolai, almost four, approaches with a shovel and asks if he too can dig. "No, Nikolai. You have to be in older preschool to dig. You're only three; you'll never be in older preschool."

Kamilah, a toddler teacher, thumbs through accident reports on her clipboard. Today there are three incidents of biting, a scratch deep enough to draw blood, and a bumped head. She will report these to parents and brace herself for their reactions. She loves working with toddlers, but trying to prevent split-second actions that result in injuries leaves her feeling inadequate. She wonders how long she'll continue as a toddler teacher.

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AGE MATTERS. We act differently with our best friends than we do with our grandmothers. We acted differently when we were two than when we were eight.

Age in children is associated with increased physical size, privilege, and status. Although age itself does not cause higher or lower status, age often determines the groupings that most influence children's social acceptance and confidence. In families and neighborhoods children spend time in mixed-age groups, learning from and teaching each other. In

schools and child care, however, children are typically grouped by age.

Same-age groupings used by institutions are often considered a given, not something to question or with which to experiment. States regulate age groupings for young children to ensure their safety and foster their well-being. However, ecological systems theory (Bronfenbrenner [1979] 2005) suggests that the people with whom we spend time influence how we behave.

The examples at the beginning of this article sparked a group of teach-





ers' interest in conducting action research. Their research involved behavioral observations in a small child care center serving children ages 18 months to five years. For as long as anyone remembered, the center had had three classes: toddlers (18–36 months), younger preschoolers (three- to four-year-olds), and older preschoolers (four- to five-year-olds). The program adhered to NAEYC indicators of quality (Bredenkamp & Copple 1997)—group sizes were small, ratios were low, and qualified teachers worked well together.

As part of the center's ongoing professional development, a head teachers group met weekly to discuss issues concerning children, families, or staff and to develop action research projects as a way of studying a concern and applying research to their practice. One concern focused

on high levels of physical contact among the toddlers, which led to injury despite teachers' most vigilant efforts. Another issue was that, although preschoolers often engaged enthusiastically in learning activities, they tended to compete with each other for acknowledgment of their creations as the *biggest* or *best*.

Teachers redoubled their efforts to help every child feel valued and appreciated, and yet competition persisted. The head teachers brainstormed other possible reasons for the challenging behavior and ways to look at their concerns more deeply. They realized it was time to use a different lens. The center's previously unquestioned method of grouping children by age received the strongest scrutiny. They launched their questioning and exploration in four stages.

Untangling the age issues

As teachers discussed the social conflicts in their classrooms, it was clear that in some ways they contributed by accepting the current groupings. Children linked status, privilege, and friendships to classroom membership. Thus siblings or close neighborhood friends rarely associated with each other on the playground and even shunned one another.

While teachers regarded each child as unique and special and valued each age as important, social hierarchy among children was age based and status was tied to age grouping. Teachers unanimously agreed on changing the names of the classes as a start to altering children's beliefs about the age groupings.

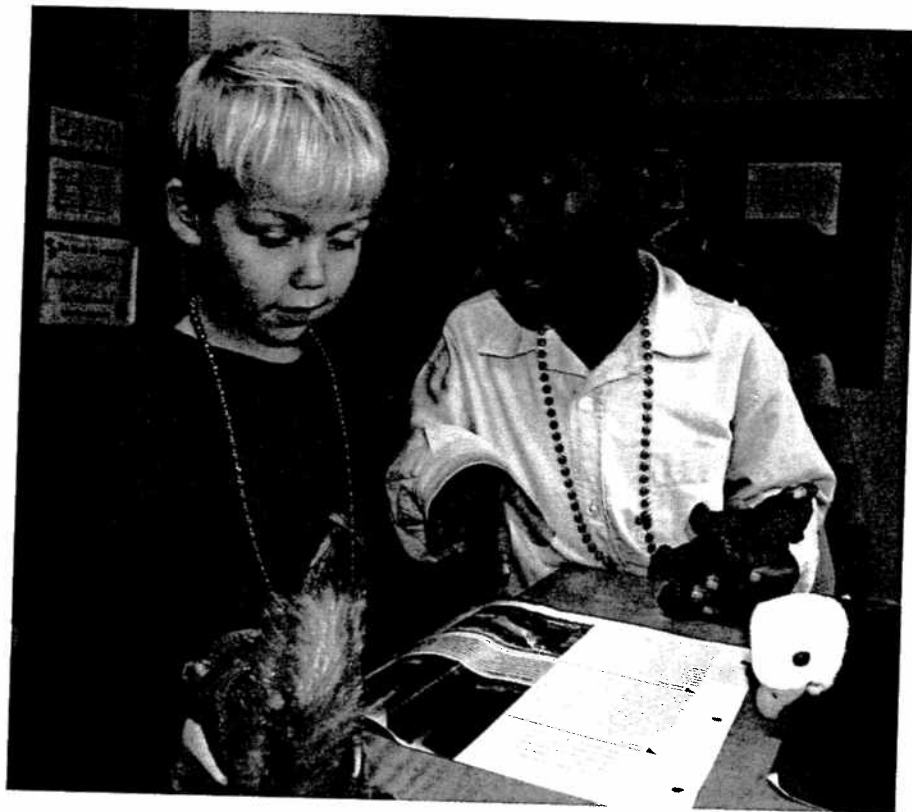
With buckets of paint, the toddler room became the Yellow Door class, the younger preschool became the Red Door class, and the older preschool, the Green Door class. Children's use of language to exclude others based on their class placement did decrease, but outside the classroom children continued to associate only with their same-age classmates. The youngest children in their exuberant play and exploration continued to use their bodies to solve problems, and the older children competed with each other to be first or best in each activity.

Looking deeper

The toddler teachers decided to continue the inquiry. The toddlers loved the smoothness of their yellow door and could name the color, but the frequency of biting and hitting was unchanged. Teachers carefully prepared the environment, selected activities and materials based on children's needs and interests, respected individual temperaments and

family cultures, and offered warm, consistent guidance. Still, too many hurtful incidents occurred, and teachers' confidence was affected.

The center's teachers faced up to the social difficulties in their groups and committed themselves to unraveling the problem by first reviewing the literature on how age grouping affects behavior. Next they began an action research project to promote prosocial behavior among all children in the program, toddlers included! The research comparing multiage with same-age interactions of children, especially among toddlers, supported the hypothesis that age-segregated groups might be contributing to the social issues teachers were trying to reduce.



Review of the literature

Research focused on multiage groupings shows cognitive and social growth for children (Gaustad 1997). In the studies examining multiage groups of children primarily from families with low incomes, the findings indicate that not only are academic and social development higher but children have better self-concepts and more positive attitudes toward school than do children in same-age groups (Anderson & Pavan 1993).

Finding studies focused on toddlers was challenging. The cross-cultural studies that looked at sibling interactions suggest that beginning at age four children take responsibility for initiating teaching situations with their toddler siblings and that this developmental skill increases with age (Maynard 2002). A Piagetian framework based on how children make meaning by coordinating their experiences and beliefs suggests that

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both older and younger children benefit from their teaching interactions.

As children engage in dialogue with others at different developmental stages and attempt to explain and justify their point of view, they will begin to move toward a higher level of development In the process of resolving cognitive conflict, group members can

same-age peers. Goldman (1981) observed that younger children in a group of three- and four-year-olds spent less time in parallel play and required less teacher direction than they did with same-age peers. In another study, Brownell (1984) found that 18-month-olds used more vocalizations, imitations, and object-mediated social actions when playing with older peers. Chalkley (1984) found that toddlers in a play group with preschoolers use more verbal communication than do toddlers with same-age playmates.

A longitudinal study of children

from kindergarten to third grade shows lasting effects of multiage placement on children's social behavior (McClellan & Kinsey 1999). Although the McClellan and Kinsey study did not include toddlers, it shows clear benefits for older children as well as young children in a multiage

develop new concepts and structures of knowledge. (Woolfolk Hoy & Tschannen-Moran 1999, 445)

Studies with specific focus on toddlers, including Howes and Farver (1987), report that two-year-olds in multiage settings engage in more complex social play than when they are with

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setting. Opportunities for children to serve as teachers and nurturers promote cognitive as well as social development (Katz, Evangelou, & Hartman 1990).

In a study of six international cultures, including a U.S. community, Whiting and Whiting (1975) found young children more likely to direct their requests for help toward older rather than toward same-age or younger children. In the same study older children given responsibility for caring for young children were more prosocial than were children without such exposure. The study's authors conclude that part of this prosocial behavior is the ability to tune in to the needs of another person or, in psychological terms, to take the perspective of another.

The ability to think about another's perspective and adjust one's behavior has social and cognitive consequences. Evidence from studies suggests that preschool-age children can modify their language when communicating with a younger listener. For example, Shatz and Gelman (1973) compared the speech of four-year-olds talking to their peers with their speech when they spoke to two-year-olds. In three different experiments, the four-year-olds adjusted their speech for the two-year-olds, making it shorter and syntactically simpler and containing more attentional utterances (e.g., "Hey, look . . ."). No speech adjustment occurred for same-age peers. In another study examining the amount of language expressed by toddlers, Howes and Rubenstein (1978) looked at two types of child care: multiage family child care and age-segregated group care. They found that toddlers engaged in more conversations with other children in family child care settings where three- and four-year-olds were present than in group settings of only fellow toddlers.

Action research

The teachers conducting the action research felt that a negative feature of same-age groups was the incidence of competition and aggressiveness as individual children strived to be the most successful or recognized among the members of a group. Teachers learned that interaction across age lines could help to diffuse this competition. In a classic study, Lois Barclay Murphy (1937) found that among nursery school children, hostile acts were most prevalent in a group of three-year-olds with a narrow age range, whereas sympathetic responses were most prevalent in a group including both older (three-and-a-half- to four-year-olds) and younger (two-year-olds) children.

Collecting the data

The head teachers group planned the action research. To collect unbiased observations, teachers who were not part of the discussions leading up to the project were selected as observers. Trained teacher-researchers recruited from among assistant and student teachers observed each child in the existing same-age classes for one hour in free-play situations. The observation instrument used for this study was modified from the Edwards and Whiting (1980) instrument used to observe children naturally. Observers recorded the target of children's behavior as either child or adult.



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Observers, trained to observe systematically, were blind to the hypothesis of this investigation and were checked periodically during the study time to verify that all were recording behavior in the same way. The action research group wanted to document the incidence of aggression, rejection, conversation, and the help children offered in their interactions with each other and with adults.

When children returned to the center after a vacation week, the same-age classes were reconfigured as multiage groups. All groups maintained the 1:4 ratio and group size of eight that had existed in the toddler class. There were no new staff members or children in the new arrangements. Recognizing that it would take both children and teachers time to adjust to the different groupings, teachers ceased observations until children had been in multiage groups for a month.

Reviewing the findings

When observations resumed in the new multiage groups, teachers noted that children's behavior directed toward adults was similar to that previously observed in same-age grouping, but their behavior with each other was quite different. The observations of the researcher teachers revealed the following:

- Aggressive behaviors, such as hitting, kicking, spitting, and taking and demanding objects, were significantly reduced in multiage groups compared to behaviors in same-age groups.
- Children shared objects more often in multiage groups, as evidenced by the higher rates of offering objects.
- Language activity also varied across types of settings. Children imitated

Children imitated language and conversed at higher rates in multiage groups compared to their previous activity in same-age groups.

language and conversed at higher rates in multiage groups compared to their previous activity in same-age groups.

What was learned

Dominance behaviors, including hitting, kicking, spitting, and taking or demanding objects, call for a great deal of teacher

attention and intervention. These behaviors are significantly more prevalent in groups of same-age peers than when children are in groups of mixed ages. Cross-cultural studies (Whiting & Edwards 1992) support this finding in the action research.

Segregating toddlers by age for children's safety may be unnecessary if there are older children present to model or scaffold higher levels of impulse control and language development. In the action research project, interaction between toddlers and preschoolers may also have strengthened the older children's impulse control as well as the toddlers'. Tod-

dlers learned language tools. A toddler grabbing an object from a preschooler may baffle the preschooler, who knows she shouldn't hurt the toddler but doesn't know what to do instead.

Older children frequently called on teachers to support their self-advocacy. In the example above, the preschooler whose toy was grabbed by a toddler might say to the teacher, "He took my toy and I want to hit him." The teacher then has the opportunity to help the preschooler find alternatives to hitting, supporting both the child's self-advocacy, problem-solving behavior, and growing impulse control. Toddlers watching this interaction also benefit. Children's behavior toward adults varied little across settings, possibly because teachers' responses were relatively consistent and elicited similar behavior from children.

Children in the multiage groups invited interactive attention, evidenced by the greater rates of showing or offering objects and asking questions. Higher rates of language exchange—talking to each other and imitating speech—occurred in multiage settings in contrast to classes of same-age peers.



The boasting behavior that bothered the teachers in the preschool same-age groups continued and is confusing. Teachers expected it to decrease in the multiage groups, but instead it increased. Possibly the toddlers, who so eagerly wanted to participate in the play of older children and were overheard to often exclaim "I can do that!" or "Watch me," accounted for this finding. This is a question to look at more closely in the future.

Issues raised

This study involving 31 children ranging in age from two through five-and-a-half was conducted under optimal conditions, with small groups, low teacher-child ratios, and highly trained teachers. The findings, however limited, raise interesting issues and as action research served to

- increase teachers' collective confidence in looking for answers to questions in the environment rather than blaming children;
- demystify research and convert it from something that is out there to a tool that is available and useful to classroom teachers; and
- open the door to further inquiry by giving teachers permission and encouragement to examine practices that they had accepted as givens.

Conclusion and new questions

Are toddlers inherently aggressive? Are four-year-olds exclusive and prideful? I think not.

More refined research can help teachers learn more about how the size and age composition of groupings affects children's behavior. Future studies could examine children's behavior during more structured times of the day to learn if structure has an impact on children's use of language and cooperation with each other in multiage settings. Teachers' attention then could be directed less

toward monitoring conflict and more toward promoting other aspects of focused learning.

Differences in the quality and quantity of language children use in same-age and multiage settings are other issues to explore. The children in the action research were from middle-class families, and they attended a

high-quality early childhood education program. Even with these privileges, spending time with older and younger children rather than only same-age peers affected the children's language. As early childhood educators we have an increased awareness of children's capacity for early literacy skill and of the importance of such



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skill development for later school success, particularly significant for children living in poverty.

All teachers question and theorize about why challenges exist. Sometimes, as was the case of the toddler teacher

Kamilah in one of the opening vignettes, teachers may blame themselves when problems arise. This experience teaches us as educators that the solution to many challenges early childhood teachers face is in the structures they create or accept.

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Working together as researchers, teachers can make changes that affect the quality of daily life in classrooms for children and for themselves as teachers.

References

- Anderson, R.H., & B.N. Pavan. 1993. *Nongradedness: Helping it happen*. Lancaster, PA: Technomic.
- Bredenkamp, S., & C. Copple, eds. 1997. *Developmentally appropriate practice in early childhood programs*. Rev. ed. Washington, DC: NAEYC.
- Bronfenbrenner, U. [1979] 2005. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brownell, C. 1984. Effects of age and age-mix on toddler peer interaction. Paper presented at the Third International Conference on Infant Studies, Austin, Texas.
- Chalkley, M. 1984. Toddlers with older playmates, toddlers becoming acquainted with playmates: Some of the consequences. Paper presented at the Fourth International Conference on Infant Studies, New York.
- Edwards, C.P., & B. Whiting. 1980. Differential socialization of girls and boys in light of cross-cultural research. In *Anthropological perspectives on child development*, eds. C. Super & S. Harkness, 45-58. San Francisco: Jossey-Bass.
- Gaustad, J. 1997. Building support for multiage education. *ERIC Digest* 114. Online: www.ericdigests.org/about.html.
- Goldman, J. 1981. Social participation of preschool children in same- versus mixed-age groups. *Child Development* 52 (2): 644-50.
- Howes, C., & J. Farver. 1987. Social pretend play in 2-year-olds: Effects of age of partner. *Early Childhood Research Quarterly* 2 (4): 305-14.
- Howes, C., & J. Rubenstein. 1978. Experience with preschoolers and toddler peer interaction in two types of daycare. Paper presented at the International Conference on Infant Studies, Providence, Rhode Island.
- Katz, L., D. Evangelou, & J. Hartman. 1990. *The case for mixed-age grouping in early education*. Washington, DC: NAEYC.
- Maynard, A.E. 2002. Cultural teaching: The development of teaching skills in Maya sibling interactions. *Child Development* 73 (3): 969-82.
- McClellan, D., & S. Kinsey. 1999. Children's social behavior in relation to participation in mixed-age or same-age classrooms. *Early Childhood Research and Practice*. Online: <http://ecrp.uiuc.edu/v1n1/mcclellan.html>.
- Murphy, L. 1937. *Social behavior and child personality: An exploratory study of some roots of sympathy*. New York: Columbia University Press.
- Shatz, M., & R. Gelman. 1973. The development of communication skills: Modifications in the speech of young children as a function of the listener. *SCRD Monographs* 38 (5).
- Whiting, B., & J. Whiting. 1975. *Children of six cultures: A psycho-cultural analysis*. Cambridge, MA: Harvard University Press.
- Whiting, B., & C.P. Edwards. 1992. *Children of different worlds: The formation of social behavior*. Cambridge, MA: Harvard University Press.
- Woolfolk Hoy, A., & M. Tschannen-Moran. 1999. Implications of cognitive approaches to peer learning for teacher education. In *Cognitive perspectives on peer learning*, eds. A.M. O'Donnell & A. King, 257-84. Mahwah, NJ: Erlbaum.

DE NUESTRO PRESIDENTE (cont'd)

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sucesivas. El mayordomo da de sí mismo a causa de su fe; lo más que espera es un galardón intangible: el dar de manera sucesiva. De este modo, la mayordomía guarda una relación estrecha con la filantropía, arraigada en un deseo de ayudar a la humanidad y elevar la condición humana.

El pueblo Lakota tiene el siguiente refrán: "Mitakuye oyasin" [Todos somos parientes]. Martin Luther King, hijo, en su «Carta desde la cárcel de Birmingham» (1963), nos recordó de "la condición entrelazada de todos los estados y comunidades". Y Albert-László Barabási, en su obra *Linked: The New Science of Networks* (Enlazados. La nueva ciencia de las redes) del 2002, reflexiona sobre lo interconectado de los nexos, o centros, del cuerpo humano y asimismo sobre los nexos y centros de las comunidades. En reconocimiento de estas conexiones, nuestro compromiso con el futuro tiene que extenderse hacia cada niño pequeño, cada educador y cada comunidad.

Así como los educadores nos esforzamos por ayudar a cada niño, tenemos que trabajar como

mayordomos por asegurar un cimiento de la educación futura de todos los niños. Tenemos que invertirnos en nuestra Asociación y crear una fundación que anime a otros defensores y contribuyentes a unirse a nosotros y que logre que cada miembro, y miembro posible, saque provecho de la comunidad de la NAEYC.

Nuestra potencialidad se encuentra en la fuerza de nuestra comunidad por lograr recursos centrales claves—capital humano y financiero, tiempo, y una visión y misión alineadas—para que sigamos adelante con este legado de mayordomía. Por lo tanto, yo creo que ha llegado el momento de la creación de una nueva fundación de la NAEYC que nos aporte el poder de tomar acción destinada a lograr un futuro brillante. Al entrelazarnos ahora, creamos un modelo duradero de una comunidad, el cual servirá a las generaciones sucesivas.

Referencias

- Barabasi, A.-L. 2002. *Linked: The new science of networks*. Cambridge, MA: Perseus.
- King Jr., M.L. 1963. Letter from the Birmingham jail. En línea: www.nobelprizes.com/nobel/peace/MLK-jail.html.