

Conversation dynamics: Findings and recommendations from an analysis of **quality vs. quantity** in school-family communication

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Introduction

In working to address post-pandemic challenges, including student learning declines and mental health concerns, staff shortages and burnout, and a fraught current political climate,¹ family engagement and school-family communication are increasingly at the forefront of educators' minds. And an ever-growing body of research has shown the power of family engagement to improve outcomes for children.^{2,3} As a nonprofit organization, TalkingPoints' mission is centered on building partnerships between educators and families and advancing the research-based practices that most impact student learning and well-being.

Researchers rarely have access to how family engagement happens on the ground without considerable data collection efforts. And most research on family engagement components of effective programs has focused on a particular communication *format*, such as a text message, postcard, home visit, family-teacher conference, or letter, rather than describing *what* families and educators discuss in their interactions.⁴

As a family engagement solution that facilitates conversations between millions of families and educators each year, TalkingPoints is uniquely positioned to investigate the content of real conversations. In this analysis, we used natural language processing, machine learning, and data from the millions of messages exchanged on our platform to ask:

- 1 What did families and educators discuss? What kinds of messages did they send to each other?
- 2 How did they discuss it? For example, was the tone of the conversation positive?

Key Finding

TalkingPoints researchers found that messages sent between families and educators largely focused on logistics or were standard replies and that while communication overall was positive in tone, messages about behavior tended to be negative.

Approach and Best Practices

We analyzed de-identified data from about 40,000,000 messages sent on the TalkingPoints platform over 15 months to identify if communication reflected the best practices described in the work of Dr. Karen Mapp of Harvard University and her colleagues.²

These practices include:

- Fostering authentic two-way communication
- Using a warm and welcoming tone
- Engaging early in the school year
- Keeping communication channels open from early childhood until graduation
- Linking communication to student learning

As such, we looked for patterns across several dimensions, including student grade level, who wrote the message, and the topic discussed.

Scope and Methodology

Our Sample

- All messages sent on the TalkingPoints platform from July 2021 to September 2022
- Nearly 40 million distinct messages
- Messages sent by administrators, teachers, and families

TalkingPoints' researchers used natural language processing (NLP) techniques and employed custom and pre-trained machine learning (ML) models for topic classification and sentiment analysis to explore the research questions posed in this study.

Topic Classification

- Used custom models from Google Cloud's AutoML service for text and document classification
- Trained with data consisting of approximately 12,000 human-labeled TalkingPoints messages
- Classified messages into seven topical categories
- Tested model with 2,400 messages (20% of labeled set)

Sentiment Analysis

- Used TWEETEVAL
- Selected a model based on the reported precision of sentiment labeling as described in the model benchmark information⁵
- Labeled messages with positive, neutral, or negative sentiment
- Tested models for use on TalkingPoints' messages using 419 labeled messages

We classified messages into seven topical groups for analysis: academics, attendance, behavior, class participation, homework & assessments, logistics, and standard replies. Our analysis defined 'best practice messages' for topics related to classroom learning and student outcomes: academics, attendance, homework or assessments, behavior, or class participation. We distinguished these topics from those that did not directly focus on student learning (logistics and standard replies), although these messages are still important within family-school relationships.

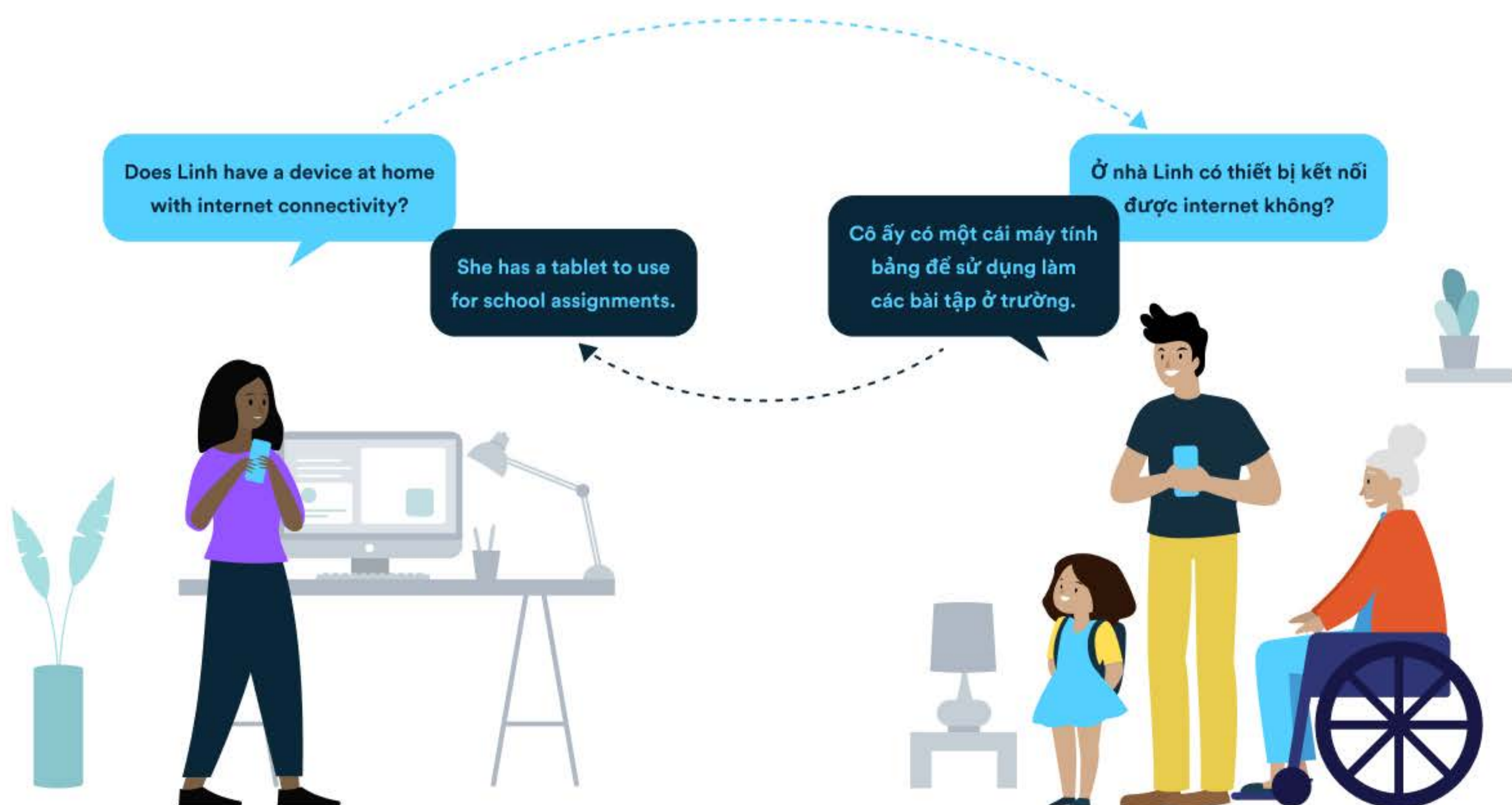


Representative messages by topic:

Topic	Example(s)
Academics	We are starting the unit on ecosystems this week and need (redacted) to bring in a soil sample.
Attendance	Hi! Just wanted to check in on (redacted) since she's not at school today.
Behavior	Yes she did very well the last 2 days of school last week. Today she has been having a rough day. She cried about wanting to go home and was disruptive and defiant for part of the day.
Class Participation	(Redacted) has been raising her hand more often in class.
Homework & Assessments	While she was out sick, (redacted) missed the pre-test. If she can do it at home, that would be great. I will send it to you.
Logistics	The assignment is on google classroom.
Standard Replies	Great; Thank you; Have a good day.

To better understand patterns in message topics by the type of sender or student grade level, researchers combined data from the models with additional message features, including:

- Whether the message sender was an educator or a family member
- Whether the educator's role is that of an administrator or non-administrator
- The level of the school (Pre-K-5th grade and 6-12th grade) where the educator works



Findings

What topics do schools and families discuss?

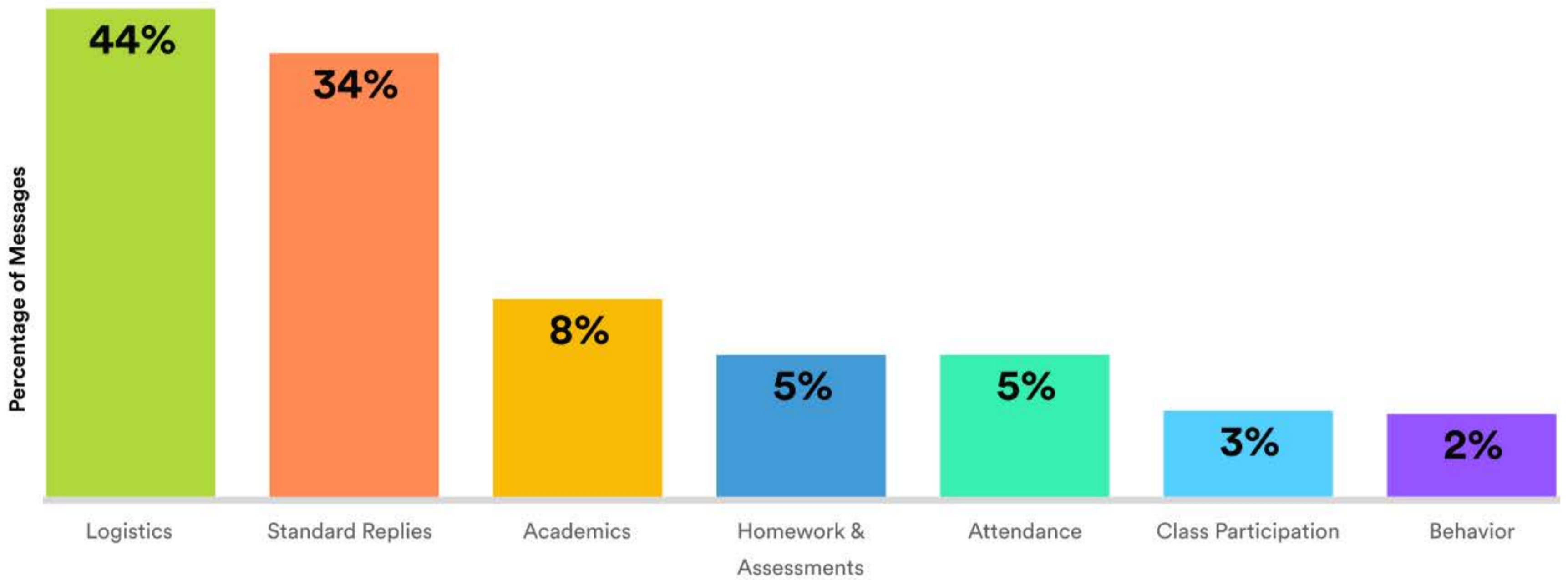
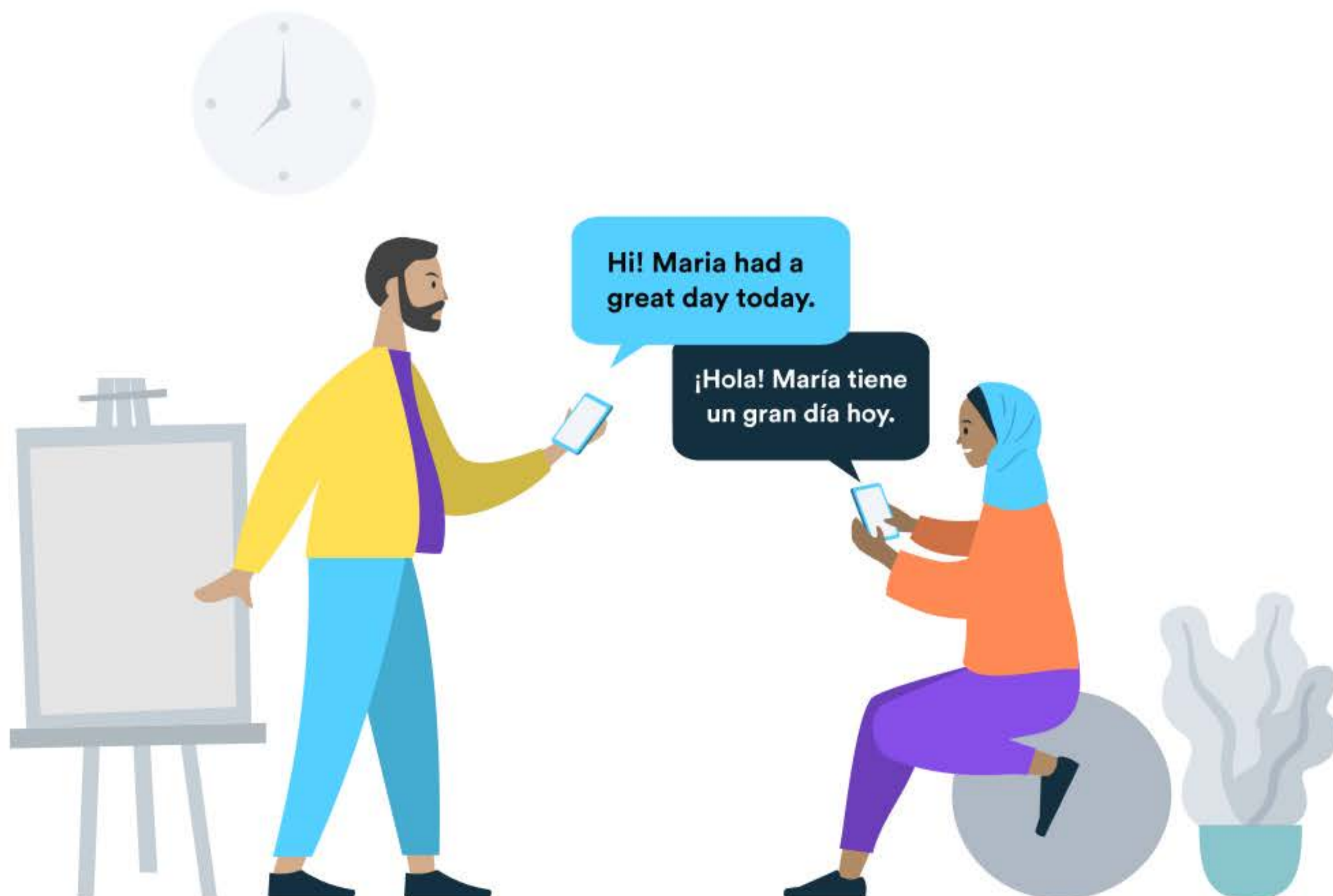


Figure 1. Distribution of Message Topics

More than three in four messages (78 percent) sent on the TalkingPoints platform discussed logistics (44 percent) or featured standard replies (34 percent). Conversely, only 22 percent of messages followed 'best practices' (focused on academics, homework or assessments, attendance, class participation, or behavior). Note: due to rounding, some totals may not correspond with the sum of the separate figures.





What is the tone of the conversations? Do we see differences in tone?

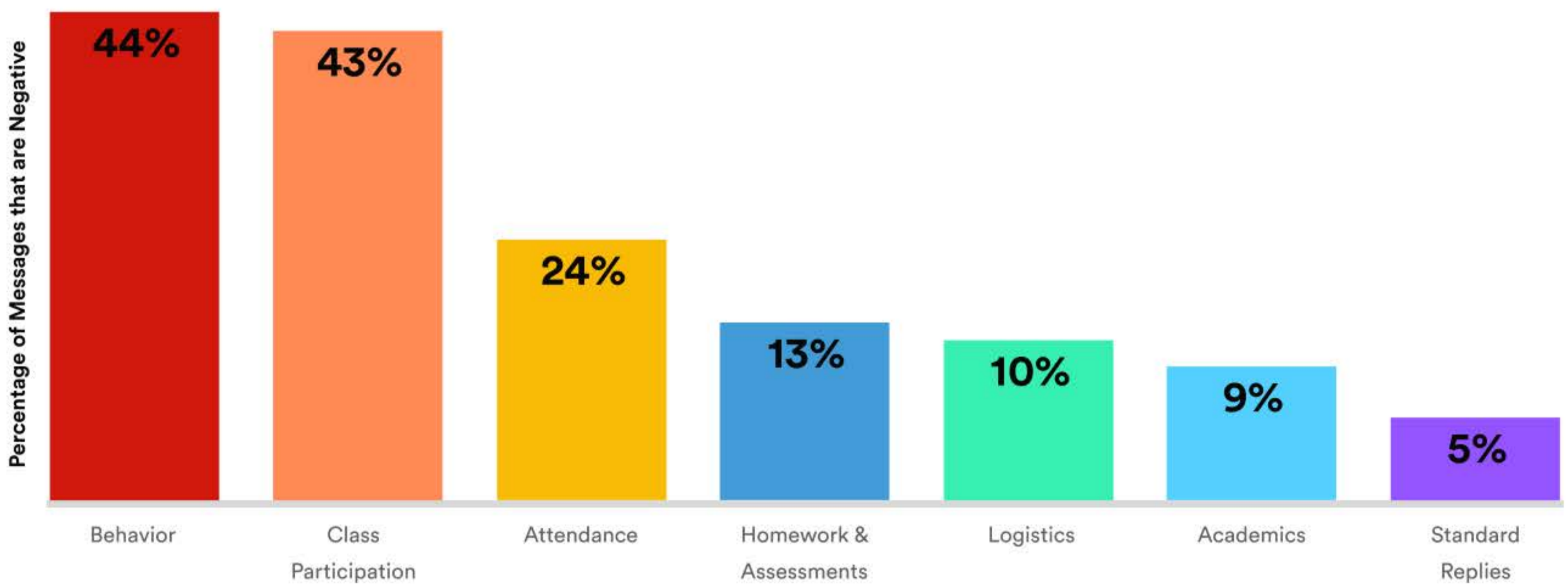


Figure 2. Distribution of Message Tone and Topic

Overall, the ratio of positive to negative messages shared through the TalkingPoints platform was almost five to one: Negative messages comprise about 11 percent of messages, with other messages relatively evenly split between neutral (41 percent) and positive (48 percent).

However, a substantial proportion of messages about behavior and class participation were negative in tone (44 percent and 43 percent, respectively), which could have a variety of explanations and may indicate that educators send behavior messages to families primarily when there is an issue.

How do conversation dynamics differ by student grade level?

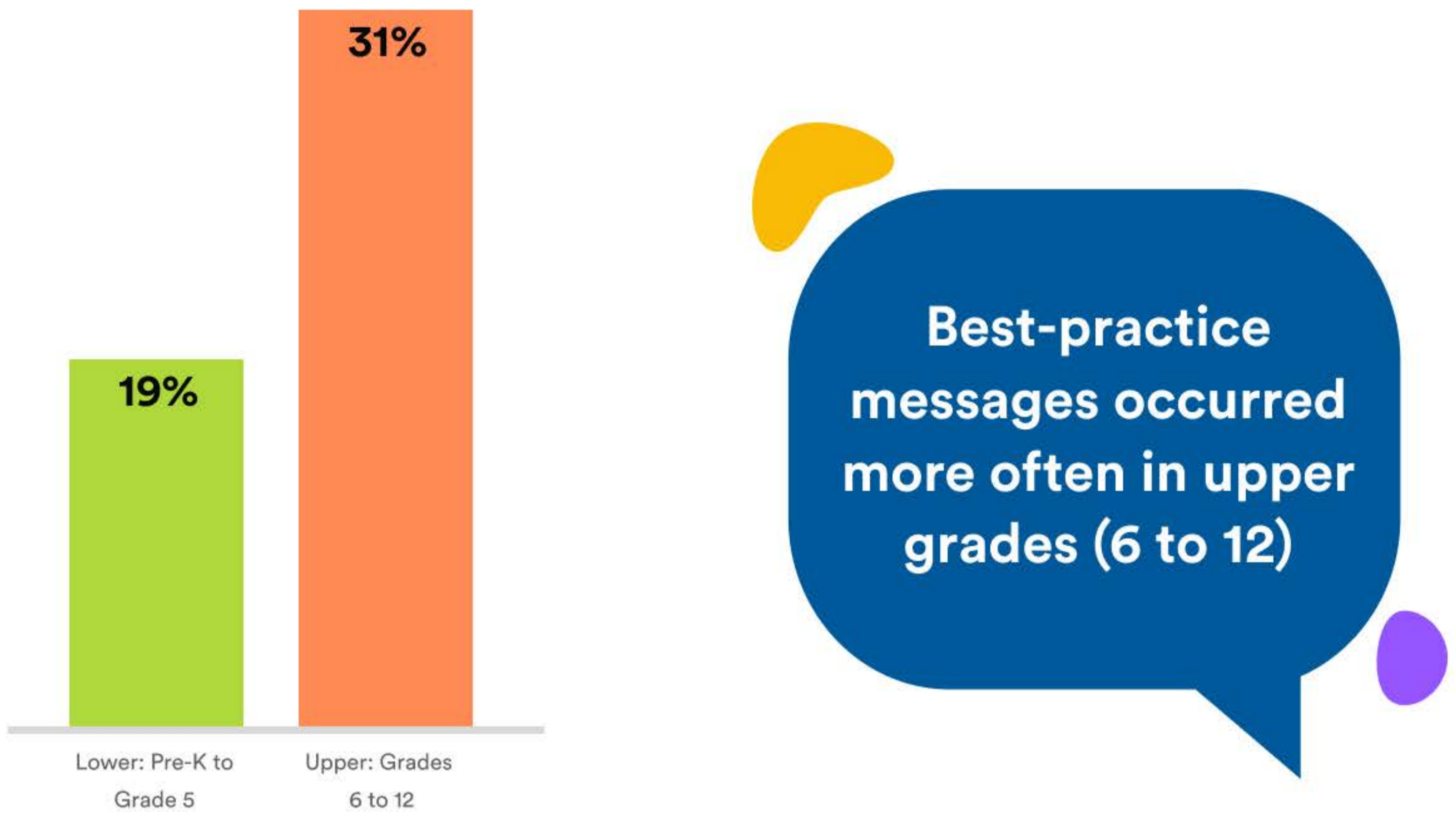


Figure 3. Percentage of Best Practice Messages by Student Grade Level

Messages concerning students in grades 6-12 were about best practice topics relatively more often than in Pre-K through 5th grade. In particular, academic, homework and assessment, and behavior conversations were much more frequent among grades 6-12; logistics conversations and standard replies were more prevalent between educators and families with students in grades Pre-K through 5. This finding may be due to younger children needing additional support for school-related logistics, including pandemic-related changes. While sharing logistics information is important for communicating the day-to-day information families need, proportionately, conversations about student learning and classroom engagement are happening far less frequently.



How do conversation dynamics vary across different school roles?

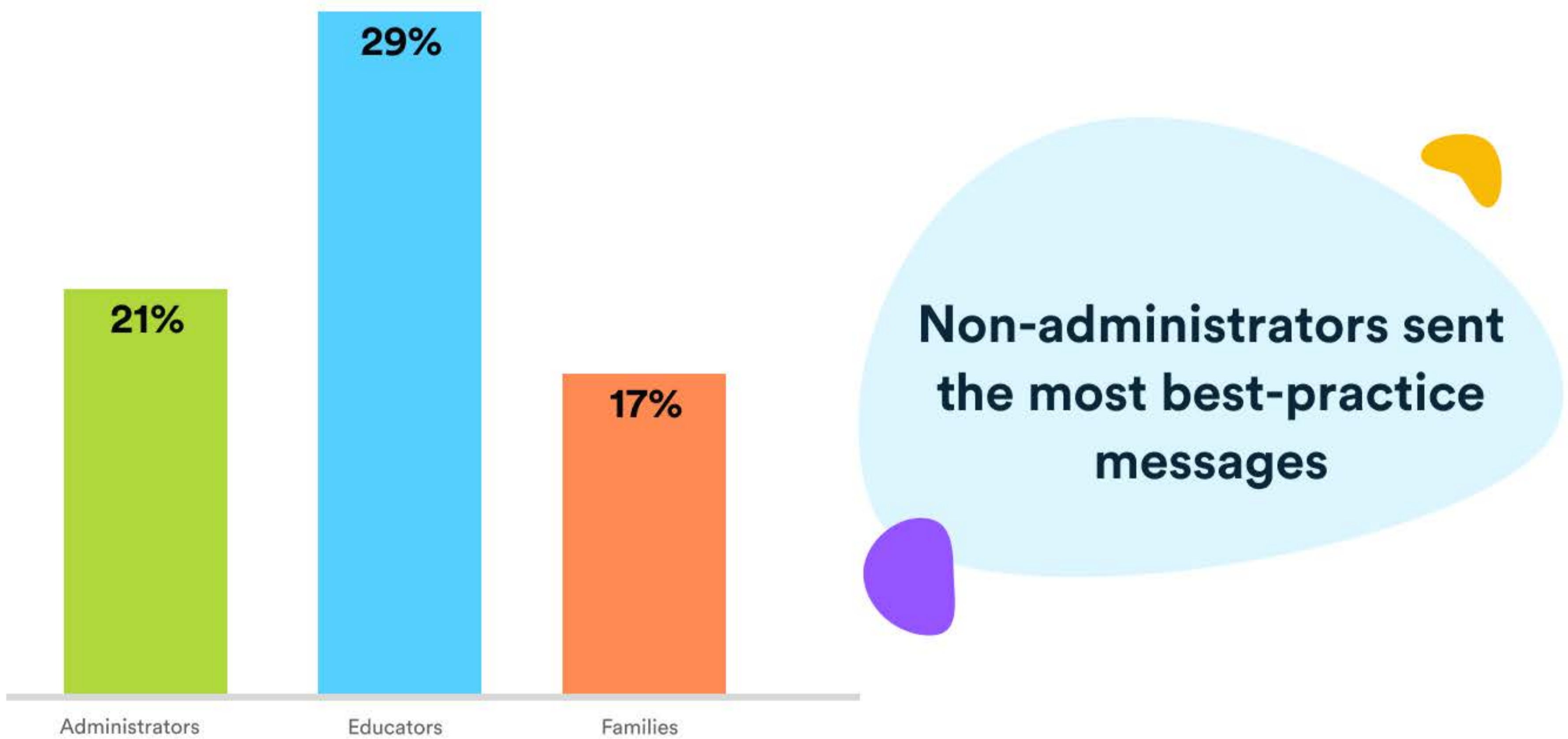


Figure 4. Percentage of Best Practice Messages by Sender Role

Non-administrator educators sent the highest proportion of best-practice message types (29 percent), whereas most administrator conversations focused more on logistics and less on best-practice topics (21 percent). Administrators sent best practice communications at about three-quarters of the rate of other educators. This finding aligned with the division of responsibilities we anticipated and recommend: administrators can best share school-wide or district-level information with families, and teachers, who are closer to the student, can better share information about and related to classroom learning.

The proportion of best-practice messages sent by families slightly lagged the proportion sent by educators. Of the messages families sent, 17 percent were on best-practice topics. This finding may indicate that families are more likely to follow schools' lead rather than initiate conversations on topics that interest them most.



Key Takeaways

- 1 Educators, especially non-administrators, have room to increase the proportion of messages they send about topics other than logistics.**

While messages concerning logistics are important, these dominate communication between educators and families. Best practice two-way communication needs to connect to student learning, include discussions about academics, attendance, and behavior, and support collaboration with families rather than just sharing information.

- 2 Educators could send more positive messages concerning behavior and class participation.**

We expect these categories to trend more negatively than others due to the real need to report and discuss incidents and challenges and acknowledge that some negatively-framed messages can play an important part in student growth. At the same time, sharing positive behavior observations with families can help spark more conversations at home and encourage students to feel more motivated and engaged in their learning. We encourage educators to send behavior and class participation messages regularly and include positive messages about these topics, as they do with academic messages. And we encourage educators to communicate concerning behavior proactively before the situation becomes problematic.



Recommendations

Decades of family engagement research underscores the importance of integrating family engagement as a core strategy for driving positive student outcomes. The insights for our analysis reinforce and complement best practices from the literature. In general, we recommend districts and schools foster collaborative communities by encouraging and supporting educators to:

- 1 Communicate early and often with families to establish trusting relationships early in the school year.
- 2 Intentionally seek to connect with each student's family and monitor engagement to identify families needing additional support.
- 3 Share positive feedback about classroom behavior and encourage families to discuss this with students at home.
- 4 Share ongoing feedback about academic progress and learning and encourage families to foster a positive learning environment at home.
- 5 Seek input from families about their students to inform classroom practice, support student well-being and academic needs, and deepen the partnership between families, teachers, and schools.
- 6 Encourage and empower families to initiate conversations with their teachers and schools; lay the groundwork for positive collaboration with families throughout a student's PK-12 experience.

Acknowledgments

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TalkingPoints is an education technology nonprofit that drives student success by removing critical barriers to equitable family-school partnerships, such as language, time, mindsets, and capacity. Ten of the country's twenty largest school districts trust TalkingPoints to create a district culture where all families, no matter their background, can engage with their schools. Our simple, intuitive universal family engagement platform offers the highest-quality human- and AI-powered two-way translated communication in 150 languages and counting. Common Sense Education named TalkingPoints "the best overall family communication platform for teachers and schools." To learn more, view our [TED Talk](#) or visit talkingpts.org.

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