

## BEGINNING TEACHERS' EQUITABLE AND AMBITIOUS NUMBER TALKS

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Number Talks (NTs) are instructional routines that offer students a participation structure for students to use mental mathematics to solve computational problems. Responding to a call for understanding ways teaching practices could be ambitious and equitable (Jackson & Cobb, 2010; Kazemi, Franke, & Lampert, 2009; Lampert et al., 2013), we investigate the structure of the routines and components of NTs as enacted by beginning teachers (BTs).

We analyzed the 21 videos of NTs by creating transcripts of the lessons. We then drew on Parrish's (2014) and Parker and Humphrey's (2018) descriptions of NTs to identify phases in NTs. We identified a structure of NTs: *introducing*, *collecting*, *idea sharing*, and *closing* phases. This structure was consistent across the data set. We then drew on Cazden's (2001) concept regarding the *initiate-respond-evaluate/feedback* (IRE/F) pattern that is prevalent in mathematics classrooms (Lawrence & Crespo, 2003) to parse transcripts initially coded as *idea sharing* into manageable units for analysis, called segments. We then characterized each of the segments by their function (e.g., sharing strategies, comparing ideas). We looked for patterns across these characterizations. We analyzed segments by attending to patterns of who was talking within each segment type as well as overall patterns of individual's talk throughout the duration of the NT. We then contrasted segments that contain a mathematical error with those that do not.

Our analyses suggest two findings. First, BTs followed a routinized structure across this set of NTs. Within that structure, we identified important variation within the *idea sharing* phase that have implications for ambitious and equitable teaching. Second, segments coded as *strategy plus*, *teacher strategy*, and *comparing* created more opportunities (as compared to segments coded as *strategy*) for multiple students to engage with mathematical ideas. Further, in these three segment types, students engaged in a variety of ways. In this poster, we focus on *strategy plus* segments to illustrate the potential for NTs to be both ambitious and equitable.

The recognizable structure of NTs across our dataset is notable. We see NTs as a type of transportable container through which BTs can develop an ambitious and equitable practice. NTs are transportable in the sense that their recognizable and reproduceable structure offer supports for BTs to engage in complex ambitious and equitable instruction. Though much current literature focuses on structures and routines to implement NTs, our analyses indicates that the structure itself does not inherently create ambitious and/or equitable NTs. We identified the *idea sharing* phase as a critical point for further development and investigation. It is here where we found distinctions between ambitious and/or equitable NTs related to the types of segments in which BTs engaged students.

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