A FRAMEWORK FOR HOMEWORK IN FLIPPED MATHEMATICS CLASSES

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Keywords: Technology, Instructional Activities and Practices, Curriculum Analysis

One defining characteristic of flipped instruction is the homework teachers assign, which typically consists of an instructional video rather than problem sets (Bergmann & Sams, 2012). We present a framework for flipped homework that categorizes types of homework and draws on existing literature to discern quality for each type (see Figure 1). This framework allows for the distinction between different implementations of flipped instruction with respect to the homework assigned, thus moving away from the assumption of flipped and non-flipped teaching as a binary distinction as in past studies (Clark, 2015; DeSantis et al., 2015).

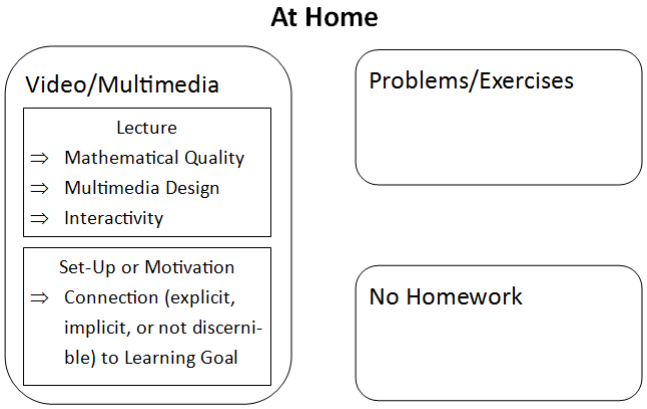

Figure 1. A framework for "homework" in flipped mathematics classrooms.

Video/multimedia homework is separated into *lecture* and *set-up or motivation* categories based on the purpose of the homework, and for each category we provide illustrative examples from a study of flipped mathematics classes. We show how the quality of instructional videos can vary according to specific criteria. We also discuss how, in our study, teachers seldom included interactive features in their lecture videos and the teachers more frequently assigned lecture videos than set-up/motivation videos. Looking beyond homework, it is likely that the in-class implementation of flipped instruction is just as (or more) important than the homework.

Acknowledgments

We thank the ReSTEM Center at the University of Missouri for their support and we thank Milan Sherman, Abigail Heffern, and Nicole Fyten for their insights and assistance.

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