

# Chapter 11

## A Professional Development Framework for the Flipped Classroom Model: Design and Implementation of a Literacy and Math Integrated Professional Development Initiative

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### ABSTRACT

*A major goal of K-12 education is to create a student-centered classroom where educators are teaching to increase critical thinking skills, promote problem-based learning, and differentiate instruction. However, the reality is that many educators are challenged by the difficult task of creating such a learning environment in their classrooms. In this chapter, the authors will introduce a Flipped Classroom Professional Development project, a Title II Part A Higher Education Improving Teacher Quality State Grant initiative. This project centered on two goals. First, the authors sought to teach the flipped classroom model through an integrated literacy and math approach while “mathematizing” read-aloud instruction for primary and elementary grade educators. Secondly, the chapter describes efforts to expand teachers’ repertoire of effective instructional, blended technology tools for teaching math and literacy. The authors will conclude with the potential of the Flipped Classroom model in K-5 settings based upon this professional development framework.*

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## **INTRODUCTION**

While the flipped classroom model (FCM)—a blended learning approach—is burgeoning in the K-12 educational realm, there are few academic sources and related literature to reflect on its pedagogical and empirical foundations. In particular, little is known about the complexities of this model in the field of professional development. Since there is a lack of current understanding in terms of a well-established theoretical framework in constructing a professional development project for the FCM, this chapter will address this urgent need. Readers' knowledge base on this subject will be expanded while examining a framework conducted to execute a Teacher Quality State Grant Professional Development Initiative in two of Georgia's high-need public schools. This chapter will first discuss the theoretical background of the FCM professional development approach. It will then examine how this professional development initiative was developed and implemented in detail. In order to demonstrate the effectiveness of the FCM project, this chapter will also report measures in terms of increased content knowledge, improvement in lesson plan quality that reflects teachers' increased understanding of the flipped classroom paradigm, as well as the themes of participants' responses in terms of benefits of the FC model workshop based upon six assumptions that served as the base of the andragogical model (Knowles, Holton, & Swanson, 2005). It will proceed to showcase lessons learned from two instructors in conducting the FCM workshop in the format of teacher case studies. Lastly, this chapter will discuss considerations that should be examined while executing the FCM professional development approach.

### **Theoretical Background of the FCM Professional Development Framework**

This section will first discuss the theoretical background of the FCM professional development

framework. The initiative was developed to equip primary and elementary grade educators with information and research-based practices to facilitate development of teachers' repertoire of literacy instructional strategies and deepen their math content knowledge through a flipped classroom model. The primary goal of this project was to train teachers from one of Georgia's Public School Systems to more effectively engage primary (Kindergarten-Grade 2) and elementary (Grades 3-5) students in the flipped classroom model through Common Core Georgia Performance Standards (CCGPS) in math, writing, reading, and metacognitive learning strategy instruction.

The flipped classroom model was adopted to address the school district's need to increase the math achievement of its students by providing differentiated and supplemental instruction in a self-paced learning environment. Writing achievement and literacy needs were also addressed. Writing to learn—in mathematics, science, social studies, and the arts—is an important consideration for elementary school teachers. Writing can serve as a valuable performance assessment tool for teachers to check mathematical content-area understanding. The theoretical framework section of this chapter will include the flipped classroom model, writing in math, TPACK (Technological Pedagogical Content Knowledge), and adult learning theory (the Andragogical Model).

### **Flipped Classroom Model**

Traditional norms of direct teaching methods have faced various challenges to meet students' needs in advancing their knowledge to become twenty-first century global competitors. Teachers' instruction is largely driven by the amount of material to cover before the test at the end of the unit. There is not much room to differentiate instruction based upon students' interests, learning styles, and readiness, which are critical elements to consider in attempting to address the diverse needs of students (Tomlinson, 2014).

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