1 Purpose

The purpose of this resource guide is twofold. It is designed to provide structure for assessment-focused professional learning community meetings and to give teacher leaders, mathematics supervisors, curriculum coordinators, teachers, and professional developers a comprehensive guide for using the assessment resources the National Council of Teachers of Mathematics (NCTM) has published in recent years. Because districts and schools structure professional development in a variety of ways, this guide will describe a variety of options through which facilitators might engage teachers in examining and applying professional development about formative and summative assessments. The wealth of knowledge from experts in the fields of formative and summative assessment—case studies, suggested discussion topics including evidence of students' learning, and the inclusion of many rich tasks and how best to use them—coupled with the research base cited in the reference sections, offer a comprehensive library for understanding both formative and summative assessments.

This resource guide examines how the publications might be used to support teachers in professional learning communities. Each book in NCTM's assessment series addresses a different area of expertise. Combining the information from NCTM's various publications makes it possible to design and present dynamic, relevant professional development sessions for teachers as they strive to build an understanding of what constitutes a comprehensive assessment system. The resources cited not only promote the need for ongoing use of formative assessment but also furnish the data teachers need to understand the intricacies of large-scale, summative assessments such as the National Assessment of Educational Progress (NAEP), the Trends in Mathematics and Science Study (TIMSS), the Programme for International Student Assessment (PISA), individual state assessments, and standardized tests. Contrary to what many educators know about district- or school-developed benchmark assessments, no scientific research exists to support these assessments' validity. Most have not been tested against industry standards for validity, reliability, or bias. In fact, the results of these benchmark assessments are rarely compiled in real time, so they lose their potential for guiding instruction. That does not mean that district- or teacher-written assessments are not valuable, but rather that one must be cautious about the assessments' purpose and how their results are used. These assessments may be used to guide curriculum revision or to identify omissions in the district mathematics program.

The National Mathematics Advisory Panel (NMAP) commissioned by President George W. Bush produced scientific evidence (NMAP 2008) that documented the improvement in students' achievement in classrooms that use effective formative assessments daily. It is, therefore, crucial that all teachers learn what formative assessment is, what it looks like in the classroom, and how to pose relevant questions designed to uncover what and how students are thinking. Teachers must also have access to resources to support implementing formative assessment.

Reference

National Mathematics Advisory Panel (NMAP). *Foundations for Success: The Final Report of the National Mathematics Advisory Panel.* Washington, D.C.: U.S. Government Department of Education, 2008.