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Introduction

Design Teams for School Change: A Cyberprojects Approach provides a blueprint for leading educators and school communities into the twenty-first century. The information age is forcing schools and educators to examine their curriculum, to look at how they are using technology, and to change the way they assess students' progress. The demands placed on future workers require educators to increase students' abilities in reading, writing, speaking, and listening. In addition, teachers need to make sure their students know how to use a computer, access information, problem solve, process interpersonal and lifelong learning skills, set goals, and function as team members.

Many schools integrate forms of technology into classrooms across the nation without much guidance to help teachers use these tools. Technology can include laser disk players, camcorders, calculators, computers, scanners, and many different software applications. Administrators and teachers can use this book as a resource as they redesign the way they deliver instruction, integrate technological skills, and utilize multiple assessment strategies.

The first chapter, *Redesigning Schools to Increase Learning*, explains a theoretical three-year school improvement plan (SIP). The SIP outlines a framework for developing curriculum that addresses real-world applications. Restructure efforts include an integrated, standards-based curriculum, project-based instruction, and the integration of technology and performance assessment. Designers must work backward and start with the big picture instead of beginning with an isolated lesson plan. This approach to curriculum and instruction helps create connections for students. Isolated lesson plans lack flow between concepts—students may understand what is taught in the lesson, but they cannot connect the information together to apply it to new situations. Many students cannot relate what they learn in school to what is expected on the job. Students often ask “Why do I need to know this?” The step-by-step process is discussed for initiating whole-school restructuring to integrate technology.

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The second chapter, *Building a Strong Technology Program to Support Learning*, describes how schools can write a sound technology plan of action. Technology goals and a three-year staff development schedule are included, as well as plans for monitoring technology integration and staff development implementation. Several Web sites appear throughout the text in brackets (< >). Do not type in the brackets when typing in the address.

Chapter 3, *Designing Projects for Real-World Learning*, ensures the curriculum is taught by providing a model for aligning integrated units with real-world projects. Strategies are explained to show how teachers weave technology throughout the learning to give students the skills they will need as they enter the work force in the next century. Examples of elementary, middle, and high school projects are shown where essential understandings in an integrated unit are linked to performance tasks in a project template, integrating technology throughout all subject areas to assure scope and sequence.

Chapter 4, *Implementing Projects for Real-World Learning*, discusses structuring a project-based environment using technology, allocating time for instructional seminars, conferences, and projects. Classroom management is covered for the one-computer classroom as well as one with multiple computers. The goals and staff development for integrating projects and curriculum are outlined for each of the three years of restructure. The variation in activities, discussions, and student interaction is also discussed.

Chapter 5, *Assessing Technologically Sound Projects*, demonstrates a wide range of assessments to evaluate both the processes and results of student learning. The components of school restructure are integrated into assessment. Performance tasks are aligned to multiple intelligences. Observations, portfolios, report card inserts, narrative reports, and performance assessments must be used together to give parents a holistic picture of their children's learning.

As design teams plan to restructure the learning environment, teachers and administrators can use the three sample units in the appendixes as references. Teachers can easily adjust the units to fit any K–12 classroom. They can also use the included glossary to become familiar with new terminology.

The authors provide examples from their own experiences with the three-year SIP. Many of the examples are drawn from their own experiences at Oak Forest School in Memphis, Tennessee. This book is based on a framework they developed to help teachers improve student learning using technology and project-based instruction. This framework shows readers how to think about curriculum; develop a technology plan; and design, implement, and assess project work.

Pre- and in-service educators, staff developers, and university professors can use the book as a reference when designing schoolwide restructure courses. Superintendents can use it to guide their district restructure efforts. Principals can use this book as they put together their school improvement plans for implementing restructure, project-based instruction, and the integration of technology.

Teachers can use this resource in a one-computer classroom as well as with multiple computers or in a lab setting. They can use it, especially chapters three

and four, to learn how to incorporate standards, projects, technology, and performance assessment into the daily life of their classroom to ensure real understanding is taking place. This results in students who are more likely to become engaged, independent, critical thinkers when their learning is viewed as an opportunity for significant investigations, individual applications, and personal reflection. Classrooms are places where students talk, read, write, and compute frequently—places where they learn better and learning lasts longer.

Chapter 1

Redesigning Schools to Increase Learning

A planned program of standards-based instruction is at the heart of restructuring the way teachers support and create exemplary practices that lead to students' understanding and application of content and knowledge. Teachers need to rethink their practices of delivering instruction to meet the challenges of an ever changing society.

Such restructuring efforts require coupling best instructional practices with the integration of technology, allowing students to apply what they learn through authentic project-based work and performance tasks. Projects help students extend and apply what they have learned, decreasing the gap between school and the real world. An authentic, interdisciplinary project-based instructional focus increases mastery of basic skills, builds a strong relationship between school and the workplace, and provides the ability to apply knowledge in meaningful ways. The goal of such restructuring is to enable students to make connections between what they are doing in the classroom and the demands and expectations found in the world of work.

To effectively integrate technology into the classroom, educators first need to develop a standards-based curriculum. Paralleling this strategy with industries' philosophies to meet or exceed a prescribed level of performance has changed the way educators must design and deliver curriculum and instruction. Instead of simply assigning a letter grade on a piece of work, teachers can give students specific criteria beforehand, so they know the level of performance expected of them. When teachers begin designing and choosing instructional activities, they should first examine what standards they need to address in the core curricular areas and recognize what essential understandings, what big ideas students need to gain from a course of study, and what standards will lead students to those critical understandings. Then teachers need to design and select those activities that meet or exceed the standard. Educators must start with the content standards to ensure that a standards-driven curriculum is in place and not a curriculum that plugs standards in here and there.