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VISION AND ACTION

Reinventing Schools Through
Personalized Competency-Based Education



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Printed in the United States of America

Library of Congress Cataloging-in-Publication Data

Names: Reigeluth, Charles M., author. | Karnopp, Jennifer, author.

Title: Vision and action : reinventing schools through personalized
competency-based education / Charles M. Reigeluth, Jennifer R. Karnopp.

Description: Bloomington, IN : Marzano Resources, 2020. | Includes
bibliographical references and index.

Identifiers: LCCN 2019040251 (print) | LCCN 2019040252 (ebook) | ISBN
9781943360185 (paperback) | ISBN 9781943360192 (ebook)

Subjects: LCSH: Competency-based education--United States. | Individualized
instruction--United States. | Educational change--United States.

Classification: LCC LC1032 .R45 2020 (print) | LCC LC1032 (ebook) | DDC
371.39/4--dc23

LC record available at <https://lcn.loc.gov/2019040251>

LC ebook record available at <https://lcn.loc.gov/2019040252>



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ACKNOWLEDGMENTS

The authors would like to thank Paul Jaeger and Layne Sherwood at the Minnesota New Country School and Nikolaus Namba and Barry Sommer of Lindsay Unified School District for their descriptions of their respective school systems, which provide powerful examples of personalized competency-based education.

Marzano Resources would like to thank the following reviewers:

Emily Batchelder
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TABLE OF CONTENTS

About the Authors	ix
Introduction	1
Why Transform to Personalized Competency-Based Education?	2
What Is the Vision?	3
What Are the Actions?	5
What Are the Criticisms of PCBE?	6
How Is This Book Organized?	7

PART I: VISION

1	Competency-Based Education	15
	Principles for Competency-Based Education	15
	Detailed Guidance for Competency-Based Education	19
	Summary	26
2	Learner-Centered Instruction	27
	Principles for Learner-Centered Instruction	27
	Detailed Guidance for Learner-Centered Instruction	32
	Summary	56
3	Restructured Curriculum	57
	Principles for Restructured Curriculum	57
	Detailed Guidance for Restructured Curriculum	62
	Summary	70
4	New Roles	71
	Principles for New Roles	71
	Detailed Guidance for New Roles	78
	Summary	88

5	A Nurturing Culture	89
	Principles for a Nurturing Culture	89
	Detailed Guidance for a Nurturing Culture	93
	Summary	102
6	New Organizational Structures	103
	Principles for New Organizational Structures	103
	Detailed Guidance for New Organizational Structures	110
	Common Problems With Visions	118
	Summary	118
7	The Principles in Action	121
	Case 1: The Minnesota New Country School	121
	Case 2: Lindsay Unified School District	132
 PART II: ACTION 		
8	Overview of the Change Process	147
	A Framework for Fundamental Change	147
	The Scope of Your Change	152
	Common Obstacles in the Transformation Process	156
9	Change Process for a District	159
	Overview of Sequential Activities for the District Change Process	160
	Detailed Guidance for the Sequential Activities	162
10	Change Process for an Independent School	189
	Overview of Sequential Activities for the Independent School Change Process	190
	Detailed Guidance for the Sequential Activities	191
	Epilogue: Transforming Education	207
	Appendix A: Ideas for New Curricula	209
	Appendix B: Helpful Resources for the Vision	211
	Organizations That Help With the Vision	211
	Schools to Consider Visiting to See Their PCBE Visions Implemented	214

Appendix C: District Readiness Criteria..... 217

Appendix D: Helpful Resources for the Transformation Process..... 225

References and Resources..... 227

Index 247

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INTRODUCTION

Educators are well aware of several serious problems related to the United States educational systems.

1. **Equity:** The quality of education differs greatly, based largely on the socioeconomic status of the school community. The resulting lack of opportunity for poorer citizens is not only a grave social injustice, but it also deprives society of their immense talents, limits perspectives among people in positions of power, and exacerbates the growing gap between the haves and have-nots, which, if unchecked, is likely to cause serious social unrest.
2. **Survival:** The very existence of a public education system is under threat. Some people are so frustrated at the inability to improve their public education system that they believe the only solution is to privatize education through vouchers. This would have grave consequences for equity and would aggravate the growing problem of tribalism in the United States.
3. **Ethics:** Schools currently are at best neutral regarding ethical development of our youth, given the persistent bullying and cheating that occur in schools. Unethical practices of housing lenders were instrumental in causing the Great Recession that began in 2007, causing widespread suffering throughout the U.S. and the world. Unethical practices of drug manufacturers, distributors, and even doctors caused an opioid crisis that has killed more U.S. citizens than died in the Vietnam War and has had devastating effects on the lives of millions more people.
4. **New needs:** We are living in an increasingly complex and interconnected world, and that is bringing huge changes to all aspects of our lives. Hence, the kind of education that was needed in the industrial age—including the hidden curriculum of “sit down, be quiet, and do what you are told to do”—is no longer what’s needed. This not only results in student disengagement and under-preparedness for success in life, but it also places our whole society in peril.
5. **A devaluing of teaching:** Teaching has become a much less attractive job, resulting in shortages of teachers and high turnover rates, with inevitable consequences for the quality of education.

These problems cannot be addressed with piecemeal reforms in our education systems—they require fundamental changes. Business as usual doesn't cut it anymore (New Commission on the Skills of the American Workforce, 2007). Teachers, administrators, and parents have the intuitive sense that the traditional approach to teaching isn't meeting the needs of today's students. But what will meet their needs and dramatically improve their schools, and how can *you* make it happen? The purpose of this book is to help teams of educators (teachers, administrators, staff, coaches, facilitators, and even board members), parents, and students to answer these questions. Personalized competency-based education and other aspects of the new paradigm of education that we call Education 3.0 are the most promising ways of effectively addressing the serious problems with U.S. education systems today. We offer proven ideas and methods both for a *vision* of personalized competency-based education and for the *action* (or process) for transforming your school or district to that vision.

This book is an extension of our previous book, *Reinventing Schools: It's Time to Break the Mold* (Reigeluth & Karnopp, 2013), which introduces six core ideas essential to personalized competency-based education. Although you need not be familiar with that resource, it contains valuable insight into why PCBE is so badly needed, and provides guidance for state and federal governments to support the local transformation of school systems. This book elaborates on those six core ideas and provides detailed guidance for how to incorporate them into your own vision and change process. This book is also a companion to *A Handbook for Personalized Competency-Based Education* by Robert J. Marzano, Jennifer S. Norford, Michelle Finn, and Douglas Finn III (2017). It builds on what has been learned at the Lindsay Unified School District in California (see *Beyond Reform: Systemic Shifts Toward Personalized Learning*) and several other pioneering schools and districts around the United States.

Why Transform to Personalized Competency-Based Education?

There are many reasons why you should transform to personalized competency-based education (PCBE). There are many ways PCBE can be done, some of which are not very effective. If done well, PCBE will:

- **Improve student learning**, retention, transfer, and motivation (Guskey & Gates, 1986; Haynes et al., 2016; Haystead, 2010; Means, Yoyama, Murphy, Bakia, & Jones, 2009; Pane, Steiner, Baird, Hamilton, & Pane, 2017);
- **Improve what students learn**, with a greater focus on what they need to be successful in life and what their families and communities need to be healthier (Collins, 2017; Lash & Belfiore, 2017; Pane et al., 2017; Reigeluth & Vogt, 2018);

- **Provide more flexibility and options** for both what and how students learn (Reigeluth & Karnopp, 2013; Thomas, Enloe, & Newell, 2005);
- **Empower students** to be more self-directed and intrinsically motivated in their learning (Thomas et al., 2005);
- **Improve equity**, not by closing achievement gaps in a one-size-fits-all curriculum, but by helping all children to reach their potential, given their individual talents and interests (Aslan & Reigeluth, 2015; Thomas et al., 2005);
- **Lower the cost** of education, especially by lowering administrative costs (Egol, 2003; Reigeluth, 2018);
- **Reduce the bureaucracy**, empowering teachers and empowering parents to play a larger role in their children’s education (Reigeluth, 2018); and
- **Improve the quality of life for educators**, and consequently reduce the teacher shortage and improve teacher quality (Reigeluth, 2018).

So how can you do PCBE well? This is a matter of vision.

What Is the Vision?

In today’s fractured society, it is not easy for your school system to come up with a shared vision of education that will meet students’ needs as they face an uncertain and rapidly changing future. To tackle this task, it is important to think about changes in both *what* students learn and *how* they learn it.

What Students Learn

What students need to learn has been changing dramatically as we evolve deeper into the post-industrial age, partly because information is so readily available through the internet, partly because knowledge work is replacing manual labor as the predominant form of work, and partly because our society and its institutions and tools are becoming so much more complex.

We suggest that the major criterion for deciding what students learn should be its relevance to students’ current and future lives—what they need to learn to become happy, successful adults who contribute to their communities. Several influential educators (for example, Collins, 2017; Prensky, 2016) propose that the curriculum should focus on helping each student find their passion, cultivate their individual talents to pursue that passion, and develop the skills necessary to achieve their goals, such as the ability to think critically, problem solve, and learn how to learn. This requires more than piecemeal changes to the curriculum—more than just adding some new courses. It requires a fundamental change, which we describe in chapter 3 (page XX).

How Students Learn

How students learn has also been changing dramatically in the post-industrial age, partly because learning sciences and instructional theory have greatly improved our understanding of how people learn and how best to help them learn, and partly because technological tools that can personalize learning have become more powerful. We suggest there are three keys to maximizing student learning: (1) student motivation, (2) scaffolding to support learning, and (3) a supportive learning environment.

1. **Motivation:** You can't make a student learn. To maximize student learning, you must motivate the student to learn. Psychologist David McClelland (1987) identified three powerful motivators in his Three Needs Theory: the need for achievement, the need for affiliation, and the need for power. Instruction is more or less motivating to the extent that it addresses all three needs. PCBE addresses the *need for achievement* through a competency-based approach to learning that emphasizes real-world accomplishments. Student progress is based on mastery rather than time, so every student feels a sense of pride and accomplishment, and students learn by doing authentic projects that impact the student's world. PCBE addresses the *need for affiliation* through collaborative learning in a supportive environment. It also fulfills the *need for power* through self-directed learning with agency, voice, choice, and development of grit (Dweck, 2016).
2. **Scaffolding:** Motivation alone cannot maximize learning. Students also need personalized support that empowers them—*scaffolding*. This scaffolding may entail *adjusting* the difficulty or complexity of each project, *coaching* the student during performance on the project, or *tutoring* the student in new knowledge, skill, or understanding just before it's needed in the project (Reigeluth, Myers, & Lee, 2017).
3. **Supportive learning environment:** Finally, a caring, supportive learning environment is essential to maximize student learning. It's been said that if a student doesn't think that you care, the student doesn't care what you think. This requires building relationships that endure over more than just one year and includes relationships among students as well as relationships between students and the teacher. Caring means that the teacher knows about personal difficulties each student faces and helps the student deal with them. Trauma-informed teaching, a growing school movement that places students' social and emotional needs at the center of the schooling experience, is an example of this.

Systems Thinking for the Vision

Transforming what students learn and how they learn it requires systems thinking. Educational reforms have often focused on changing one part of a school system at a

time: open classrooms, personalized learning, self-directed learning, project-based learning, collaborative learning, computers in the classroom, site-based management, and the list goes on. Each of these is good. The problem is that most of these individual changes are incompatible with the other parts of the school system, thereby reducing their potential benefits and endangering their sustainability. For example, we know an elementary school in the Midwest that decided to move to competency-based learning and placed students in math classes according to their skill, rather than their age. But the school still used teacher-centered, large-group instruction. As a result, all students in the class moved on to a new topic at about the same time. So, the competency-based approach had become a form of large-scale tracking, and poor test results killed the effort.

To successfully maximize student learning, we must pay attention to which other parts of the school system must change to support any important shift we want to make. As Marzano and colleagues (2017) put it in *A Handbook for Personalized Competency-Based Education*, “For a PCBE system to be effective, it must be designed so that each piece works in concert with the other pieces” (p. 10). This is the essence of truly systemic change, or paradigm change (Reigeluth & Karnopp, 2013). A *paradigm* is a completely different pattern and structure for a system. It is more comprehensive than a model—there can be many models within a single paradigm. In educational systems, the one-room schoolhouse is one paradigm (for the agrarian age), the current teacher-centered factory model of education is another (for the industrial age), and the personalized competency-based paradigm is a third (for the information or digital age).

Only paradigmatic change can help teachers maximize student learning and prepare students for the future. Paradigm change is not new to education. The one-room schoolhouse, or agrarian-age paradigm, was different from the industrial-age paradigm that predominates today (Reigeluth & Karnopp, 2013). We call these *Education 1.0* and *Education 2.0*. The personalized competency-based paradigm, or post-industrial paradigm, is *Education 3.0*.

What Are the Actions?

It will not be easy to implement the vision for personalized competency-based education (PCBE) that your team develops. Many aspects of your school or district will need to be changed at once, because the success of each change depends on the other changes. Fortunately, much has been learned about how to succeed at paradigm change. For example, the actions (transformation process) must include many stakeholders and give them ownership over the process to reduce resistance to the changes. The process must operate by building consensus, rather than by majority rule. Finally, the process must recognize that changes in mindsets and other kinds of learning are the most important outcomes of the effort.

Transforming to PCBE is a difficult and treacherous process. The guidance we offer in this book will help your team succeed in this essential undertaking for the future of

our children. We offer guidance about the transformation process for a whole school district and for individual schools. But we caution that it is not wise to try to transform an individual school within a school district, because it will become incompatible with the rest of the district, which will then automatically try to change it back. Many successful pilot schools have been unsustainable as a result.

What Are the Criticisms of PCBE?

As described in the preceding sections, personalized competency-based education has a laudable and needed goal: all students achieving mastery of whatever they are attempting to learn. Yet some people are critical of it (Herold, 2017). Why? At the root of the criticisms is a lack of conceptual clarity. PCBE is many different things to different people. There are many ways to do PCBE, and many of them don't work well.

Personalized learning alone is a one-legged stool. So is competency-based education alone. There are four parts of competency-based education—competency-based approaches to (1) student progress, (2) student assessment, (3) learning targets, and (4) grading and student records—but they are not always used together. To work effectively, all four parts of competency-based education should be used together, along with personalized, collaborative, project-based, and self-directed learning—all supported with appropriate technological tools and teacher training. If you try to implement one of these at a time, your stool will fall over long before you can assemble all the legs.

Table I.1 (page XX) shows some conceptualizations of PCBE that are destined to disappoint, along with remedies to those flawed conceptualizations.

Table I.1:
Flawed Conceptualizations of PCBE and Corresponding Remedies

Flawed Conceptualizations	Remedies
Students working alone on computers	Also using collaborative projects extensively
Competencies as small, separate objectives	Using more comprehensive objectives that are more meaningful and address higher, deeper, integrated, and sometimes unmeasurable kinds of learning
Assessment and remediation as separate events at the end of a considerable amount of instruction	Integrating assessment with the instruction, so the instruction provides whatever remediation may be needed
Using traditional bell-curve grading when evaluating mastery of competencies	Moving to records in the form of proficiency scales and lists of competencies mastered
Maintaining time-based student progress where competencies must be mastered within a specific timeframe	Changing to continuous (learning-based) student progress for each student
Assessing a whole set of competencies at once and passing a student if 60 or 70 percent of them are mastered	Identifying critical competencies and ensuring mastery of each one

The lesson of these criticisms is that PCBE requires *full commitment*. If your team is not going to implement PCBE fully, then it will be a waste of your time and effort. If you are committed to doing it well, this book will help you get where you want to go.

How Is This Book Organized?

The purpose of this book is to help a team of preK–12 teachers, administrators, and other stakeholders to improve your school or district by transforming to PCBE. We offer ideas and transformation processes for the classroom, the school, and the district. This book is intended for a team of educational stakeholders because the transformation to personalized competency-based education cannot be done effectively in a single classroom—it must be a schoolwide or districtwide effort.

Part I is about the PCBE vision. Its chapters offer ideas about what changes you might want to consider for your PCBE classroom, school, and district to better meet students' needs in this post-industrial, digital-age society. All three levels of change should be done together (if you are an independent public charter school or private school and don't have a district or central office to deal with, then obviously only the first two kinds of changes are important). Your team should consider six core ideas while developing your vision, each of which is addressed in a separate chapter (chapters 1–6). Chapter 7 presents two comprehensive case studies that exemplify the core ideas—one for an independent public school (not in a school district or charter network) and one for a school district.

Part II is about the change process. These chapters address the difficult challenge of how to transform from what you have now to what you envision (with the help of part I) to maximize student motivation and learning. Chapter 8 helps you to decide on the best scope for your change effort and describes a framework for the change process that applies to every scope. Chapter 9 offers detailed guidance on sequential activities for a school district, while chapter 10 offers such guidance for an independent public school (not part of a school district or charter network). The appendices offer criteria for assessing readiness for transformation, as well as detailed lists of helpful resources for enhancing your success.

Now that you have some understanding of PCBE, recognize that complex paradigm change is the only way to achieve strong outcomes for students, and have a sense of how to navigate this book, let's move on to the nuts and bolts of making PCBE a reality in your school context.