

Students Taking Charge

**Inside the Learner-Active,
Technology-Infused Classroom**

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Contents

Meet the Author.....	iii
Downloadable Resources	v
Introduction.....	xiii
1 The Big Picture for Your Instructional Design Journey.....	1
Shifting Mindsets.....	1
The Role of Schooling.....	2
Moving Beyond “It’s Always Been That Way”	2
Three Critical Goals.....	3
Engaged Learners	3
Student Responsibility for Learning	4
Academic Rigor.....	5
The Digital Generation	6
Stories from the Field.....	7
A Philosophy and Solution	10
What to Expect.....	11
Imagine, Consider, Create	14
2 Start with a Core Problem for Students to Solve.....	15
Imagine	15
Consider.....	16
Learning from a Felt Need.....	16
From Skills First to Application First	17
Create.....	20
Step 1: Start with the Standards.....	20
Step 2: Think Application	21
Step 3: Think Authenticity and Relevancy	22
Step 4: Think Open-Endedness.....	24
Step 5: Think Product	25
Step 6: Think Content	26
A Look at a Sample Task Statement	28
Slow Start, Quick Finish.....	31
Recap	32
3 Designing a Rubric to Drive Instruction	33
Imagine	33
Consider.....	34

The Task–Rubric Partnership	35
Using Analytic Rubrics to Drive Instruction.....	35
The Balance Between Quantitative and Qualitative Criteria.....	37
Create.....	39
Step 1: Identifying Grade-Level Performance	39
Step 2: Defining the Rubric Categories	39
Step 3: Moving from Novice to Practitioner	40
Step 4: Writing the Expert Column.....	40
Step 5: Fostering High Academic Standards.....	44
Step 6: Ensuring Objectivity	44
A Closer Look at Exemplary Rubrics	46
The Grading Dilemma.....	48
Assessment Through the Transfer Task	50
Recap	50
4 Developing an Implementation Plan.....	52
Imagine	52
Consider.....	52
Beyond the Problem-Based Task and Analytic Rubric	52
Create.....	53
Presenting Concepts to Your Students.....	53
Vygotsky’s Zone of Proximal Development	55
Conducting the Benchmark Lesson.....	55
Presenting Skills to Your Students.....	56
How-To Sheets.....	57
Podcasts, Screencasts, and Vodcasts.....	59
Small-Group Mini-Lesson.....	61
Structuring Small-Group Mini-Lessons.....	62
Learning Centers.....	63
Individual vs. Group Tasks.....	65
Peer Tutoring	66
Interactive Websites and Applications.....	66
Homework	67
Recap	69
5 Teaching Through Differentiated Instruction	70
Imagine	70
Consider.....	72
More of the Research	72
Create.....	74
Unit-Level Differentiation.....	74
Lesson-Level Differentiation	76
Classroom-Level Differentiation.....	80

Technology as a Power Partner for Differentiating Instruction	83
Recap	84
6 Engaging Students in the Learning Process.....	85
Imagine	85
Consider	86
Create.....	88
The Home Group	88
Introducing the Problem-Based Task and Analytic Rubric.....	89
Student Schedules	90
The Activity List	93
Teaching Students to Schedule Their Time	94
Student Work Folders	95
The Student Work Folder–Assessment Connection.....	96
Upon Entering the Classroom.....	97
Analytic Rubrics	97
The Resource Area	98
The Help Board	98
The Quality Work Board	99
Table Journals	100
Resource Signup Sheets	100
Small-Group Mini-Lesson Signup	103
Recap	104
7 Facilitating Learning.....	105
Imagine	105
Consider	106
Create.....	107
Asking Logistical Questions.....	108
Asking Probing Questions.....	108
Using Formative Assessments to Drive Instruction	112
Formative Assessment Grids.....	115
Recap	120
8 Physical Classroom Design	122
Imagine	122
Consider.....	123
Create.....	124
Collaborative Work Space.....	125
Individual Work Space.....	125
Discourse Centers	126
Computer Areas	127
Resource and Folder Area.....	127

Small-Group Mini-Lesson Area	128
Meeting Area	128
Limited Resource Area	128
Use the Walls.....	129
How Big the Screen?.....	129
The Teacher’s Desk	130
Recap	131
9 Ten Principles of the Learner-Active, Technology-Infused Classroom.....	132
Higher-Order, Open-Ended Thinking.....	132
What Higher-Order, Open-Ended Thinking Looks Like in the Classroom.....	132
High Academic Standards.....	133
What High Academic Standards Look Like in the Classroom.....	134
Learning from a Felt Need	134
What Learning from a Felt Need Looks Like in the Classroom.....	135
Global Citizenship.....	135
What Global Citizenship Looks Like in the Classroom	136
Technology Infusion.....	136
What Technology Infusion Looks Like in the Classroom	137
Individual Learning Path	137
What Individual Learning Path Looks Like in the Classroom.....	139
Student Responsibility for Learning.....	139
What Student Responsibility for Learning Looks Like in the Classroom.....	140
Connected Learning	140
What Connected Learning Looks Like in the Classroom	141
Collaboration.....	141
What Collaboration Looks Like in the Classroom	143
High Social Capital.....	143
What High Social Capital Looks Like in the Classroom	144
Recap	145
Appendices.....	147
Appendix A: Airport Problem	148
Appendix B: Radioactive Waste Smorgasbord.....	150
Appendix C: Ski Indoors!.....	154
Appendix D: Declaring Independence.....	158
Appendix E: Author’s Choice.....	165
Appendix F: Dressing for the Temperature	169
Appendix G: The Mozart Effect.....	171
Appendix H: Terrific Tours! Teacher Notes	174

Appendix I: Learning Styles and Readiness Grid.....184
Bibliography 186

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Introduction

Passion lies at the intersection of a dream and success. Those who are passionate about their craft typically have a dream of what can be, and have had glimpses of that dream in small pockets of success along the way. That combination fuels a desire to keep moving forward, regardless of personal sacrifice, fully believing that this is the road on which they are meant to travel.

The field of education is graced with many passionate teachers—those who believe that all students can learn and are fueled by those moments when students perform beyond their expectations. The Greek philosopher Heraclitus said that you can never step in the same river twice, because the river is constantly changing. So it is with the classroom. Each day brings newness: students are constantly changing, growing, and learning; passionate teachers are continually honing their craft; society possesses a momentum that repeatedly presents new challenges for schools.

Passionate teachers see beyond the barriers; they know there is a better way to prepare young people for their future and to unleash in them all the potential they possess. They explore new ways of approaching teaching and learning, and, fueled by isolated and sometimes small encounters with success, they forge ahead. I have no doubt that the relentless pursuit of instructional innovation by the passionate few will overcome the barriers of resistance and create innovative, adaptive learning environments that will both serve and form society in ways beyond our current imagination.

My own passion for pursuing instructional and organizational innovation in schools is fueled by the wonderful stories I've collected over the years from my own teaching; from my encounters with passionate teachers who have taken my vision and turned it into reality; and from my collaboration with the dedicated, creative, and innovative people with whom I've had the pleasure to work at IDE Corp.

My vision for the *Learner-Active, Technology-Infused Classroom* was inspired by many moments throughout my life. When I was ten, I began running a summer school program for the neighborhood children; by the time I was twelve, I was charging fees and holding graduation ceremonies for parents. In some ways, it was a one-room schoolhouse; I had neighborhood children of all ages anxious to come to my school for the three days a week it was open, including those who were gifted, those with learning difficulties, and a child with cerebral palsy. To meet their needs, I assigned varying work and spent a lot of my time working in small groups and with individual students. I still look back in amazement that the neighborhood kids hated

to miss a day of summer school, given that we truly worked the entire time! One bright and talented young man had been attending my school since age three. When his mom had her first parent–teacher conference, his teacher pointed out how far ahead he was from his peers, no doubt because of the private school he was attending. Today, the young man is a judge, and I like to think his early experiences in “school” helped to fuel his own passion for his craft.

An early experience in my teaching career inspired me to solidify my vision and articulate it so that others could join my quest for the ultimate learning environment. It was the late seventies, my second year in teaching and first year teaching middle school. I was assigned the lower-level math students who had repeatedly failed the state tests. I remember starting class asking my eighth graders to take out their books, only to find that few brought them. Paper? Pencil? My efforts to recreate the traditions experienced in my own schooling seemed futile. One day, I asked my students to simply show up for class the next day—no books, no paper, no pencils. They all complied. I had pushed back the desks and arranged the chairs in a circle. I explained that I wanted to keep my job and they needed to learn math, and I asked them for the solution to my dilemma. My students pointed out that math instruction was boring and they didn’t see the point. I suggested that perhaps I could design projects that would make the learning more meaningful; they agreed to give it a try.

I don’t remember the first project I designed, nor the entire complement, but I do recall a few. We created scale drawings of birdhouses to build; we used paper plates to create polyhedra disco balls (it was, after all, the seventies). In those days, teachers could take their students out to play kickball on a nice day. My students would head out with clipboards to track the progress of the game; once inside, they would run the statistics on the game and analyze it in light of previous games. When the state tests arrived, my students did quite well, with almost all of them passing. I remember my principal asking me what I did; I didn’t know. He persisted and pointed out that my students performed particularly well on percentages, but I simply shrugged my shoulders and admitted I hadn’t gotten to that chapter yet.

Years later, I realized what had happened. I had designed higher-order problems for my students to solve, and then provided them with the resources and support they needed to learn. I realized, too, that the problems did not encompass only the skills in a single chapter of the textbook; they spanned many chapters. I would venture to say we worked with percentages, for example, in most of the problems. I saw the power of students learning from a *felt need* in an authentic context, and that year and the successes my teaching style yielded never left me.

It was, however, the invention of the desktop computer and its arrival in schools that further fueled my vision for the classroom. Teachers are faced

with a classroom of students with varying needs and interests; computers provide them with a wealth of opportunities to help students learn. In the early eighties, I was a district-level administrator, when I decided to make “an offer to innovate” to a couple of teachers. Alysse Daches and Cyndie Bach taught fourth and fifth grade, respectively. They were both among the daring few who purchased desktop computers for their homes. I asked how they would like to have five desktop computers for their classrooms, and they jumped at the chance. Over the course of the next few months, I saw a new vision for the classroom spring to life. On one visit they told me they felt guilty that the computers sat vacant while they were teaching lessons; I suggested that perhaps they could reduce the number of whole-class lessons in favor of other means of providing instruction. On another visit they told me how challenging it was for the children to push together desks of all different sizes and attempt to work collaboratively. I replaced the desks with 42-inch-round tables. Structure by structure, strategy by strategy, my vision for instruction took shape. More than twenty years later, with myriad classroom teachers implementing the *Learner-Active, Technology-Infused Classroom*, I wrote this book to capture the essence of this classroom to share with passionate teachers everywhere.

The book is intended to be a guide to designing an Authentic Learning Unit, which is at the core of the *Learner-Active, Technology-Infused Classroom*, and the structures and strategies to support its implementation. I believe it’s best if you pause after each chapter and spend some time designing the various components of the unit. The early chapters delve into designing an appropriate core problem for students to solve and the analytic rubric to provide them with clearly articulated expectations. Chapter 4 introduces the notion of “participatory structures,” or ways in which students participate in the learning process. Chapter 5 addresses differentiation techniques. Although much is written about lesson-level differentiation, this chapter also addresses unit-level differentiation and classroom-level differentiation. Chapter 6 offers a variety of structures and strategies for creating an environment in which students take responsibility for the own learning and thus engage more fully in the learning process. Chapter 7 offers a look at facilitating learning in this environment. Chapter 8 addresses physical classroom design, which will prove to be more useful for those who have more control over their physical classroom space than for those who do not. The ten principles of the *Learner-Active, Technology-Infused Classroom* are woven throughout and then addressed more fully in the final chapter.

I hope this book helps to fuel your passion and provide you with many ideas for innovatively designing your classroom.