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preface

Education in the digital age demands a new paradigm. In today's world doctors, scientists and engineers are evolving in their practices through the application and benefits of new technologies. Teachers must also make this shift. Students need access to all kinds of technologies and a variety of experiences for making use of them. Not rote, artificial experiences; not didactic, how-to experiences; but meaningful, authentic, real-world experiences that match the demands of the 21st-century workplace.

Our challenge as educators is to provide an education that is consistent with our students' digital-age experience. To accomplish this you don't have to be up on every new trend, application, and gadget. Rather, teachers must holistically reconsider the way they design and manage their learning environments – their classrooms – so that they are conducive to the ubiquitous technology of our time.

My work with Howard Gardner's theory of multiple intelligences has provided the opportunity to integrate technological advances with Gardner's nine intelligences – or “ways of learning” – in ways that will expand and improve teaching techniques. In this book I present an instructional model called the Intelligence Quest (IQuest), which offers a flexible approach to supporting the new digital education paradigm. The IQuest addresses all nine intelligences identified in Gardner's pioneering work, while providing a clear structure and specific goals for your Information Age classroom. Whether you are known among your colleagues as an early adopter of new instructional techniques or you are more cautious in your approach, the IQuest can help you to restructure your thinking in all facets of instruction – from simple read-and-respond activities to full-fledged technology-infused projects.

It is my hope that the IQuest model will push your thinking, prompt you into further discussion, and empower you to help your students make connections to real-world working definitions of productivity.

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CHAPTER 1



IQuest

A New Paradigm for a New Age

Today's world demands a new educational paradigm. Educators are inundated by new technologies that promise to improve education in myriad ways, we know more than ever about how human intelligence works, and there is a greater need than ever for authentic learning experiences that engage students. We need to design a classroom culture and contexts that support a variety of learning styles while incorporating the effective use of ever-evolving technologies.

This new paradigm would include the following tenets:

- All students are unique learners
- One approach to instruction does not meet the needs of all learners

- Learner motivation is fuelled by intrinsic interests, values and attitudes
- Skills and concepts should be presented in multiple modes and contexts
- Today's classroom is preparing students for the 21st-century workplace
- Classroom management requires greater learner autonomy
- Students should be immersed in authentic tasks and assessments
- Creativity and diversity are celebrated
- There is more than one way to solve a problem
- Collaborative problem-solving in a student-centred classroom is the goal
- Technology tools help teachers and students achieve this goal

The Intelligence Quest, or IQest, based on Howard Gardner's (1999) Multiple Intelligences (MI) theory, offers a flexible framework to support this new paradigm. The IQest framework can help you to restructure your thinking in all facets of instruction, from simple read-and-respond activities to full-fledged technology-infused projects. Lessons in an IQest format address all the intelligences identified in the pioneering work of Gardner while providing a clear structure and specific goals for your Information Age classroom.

Gardner's MI theory can help teachers make use of new technologies in ways that transcend their own MI comfort zones and expand their instructional repertoire, transforming their classrooms into authentic, connected, real-world learning zones.

It is no coincidence that multiple intelligences theory and digital technology have evolved concurrently over the last 50 years.

They very much go hand-in-hand. It is the development of new technologies that has helped us to better understand the inner workings of the human brain. And it is the growing body of work on artificial intelligence that has helped us to understand human intelligence in more intricate, sophisticated ways. In the same way, multiple intelligences theory and technology are complementary tools for instruction. A working understanding of the intelligences provides for appropriate, effective media selection in the classroom. And the explosion of educational technologies makes it much more possible to accommodate all the different paths to learning in the classroom.

How can teachers start moving to this new paradigm? First, recognise the ways you were taught as a student. Embrace them and appreciate them for the time in which they served you well. Then let them go and move on.

Think of the greatest teachers you ever had. Do you think they would still be using chalk on slate if they had access to the kinds of tools we have at our disposal today? Great teachers adapt and learn throughout their lives. Great teachers are never satisfied with yesterday's success. Rather than holding fast to an old paradigm, they help explore and define the new shift in thinking.

Honour those innovative teachers who instilled in you a love for learning and a desire to be a teacher yourself; carry on their legacy as a pioneer and innovator in your own time.

Leaving the Comfort Zone

The role of teachers is changing. Twenty years ago constructivism pushed us to move away from being the disseminators of knowledge to being the facilitators of learning. In today's world that is no longer enough. Beyond facilitation, teachers today need to be modellers of learning – understanding, synthesising,

creating and problem solving right in there with their students; everyone inquiring and discovering and building meaning together.

Educators naturally tend to teach and develop instruction in ways that focus on their own intelligence strengths; this becomes their MI comfort zone. But in a thoughtful invitation to educators everywhere, Leila Christenbury (2010) asks “When is it time for teachers to leave their comfort zone?” This reminded me of a favourite truism: “There’s no learning in the comfort zone, and no comfort in the learning zone.” It has been used for years to inspire teachers to think about the affective component to learning. Merging these two ideas together means we need to have our thinking challenged in order to learn new ideas. I believe the best teachers are lifelong learners. Lifelong learners push themselves outside of their comfort zones on a regular basis as they continue to learn, grow and adapt. This is especially important in this age of fast-paced change.

There is a connection between how we learn and how we teach. Our learning style impacts our teaching style. Being a lifelong learner is actually a style of teaching. But can you learn and teach at the same time? Do you have a learning-teaching style? What if your learning-teaching style is a toggle switch, and while you are in the one mode you cannot be in the other? Think about it ... if you are learning something new, don’t you have to reach a certain point of mastery before you can switch gears into a teaching mode? Or even more to the point: in learning, we are open and receptive to information and stimuli and experience; in teaching is the converse true? And if it’s not, in an age of quickly-changing information and technology, shouldn’t teaching mode also require us to be open and receptive to information and stimuli and experience, even as we are teaching?

I propose we modify the truism I stated above to: “There’s no teaching in the comfort zone, and no comfort in the teaching

zone.” If you infer from this statement what I do, your mind might now be processing questions such as:

- If I learn out of my comfort zone, does that mean it should be easier for me to teach out of my comfort zone? Feels like that doesn’t necessarily follow. . .
- As an excellent teacher in this day and age, should I constantly be pushing myself out of my teaching comfort zone in order to model 21st-century skills for my students?
- Should I not be too comfortable with the strategies, methodologies, and resources with which I have been successful in the classroom?
- Does that mean the most appropriate way to meet the needs of each student is to leave my comfort zone to meet them in each of theirs? Or do both teacher and learner need to be uncomfortable? Whose comfort zone is it anyway?

The structure of the IQuest lends itself to pushing you out of your comfort zone (relying on your natural intelligence strengths) and helping you develop instruction that will stimulate all the intelligences in operation in your classroom. Through each combination of intelligences in the examples in this book, you will explore and consider how you can extend your instructional expertise in ways that accommodate all the intelligences.

Meaningful Use of Technology

Teachers are facing an influx of new technologies. The tendency is to get excited about these technologies and then look for ways to implement them into existing instruction. This is important – we need innovators to explore the possibilities of technology. But there is also the need for models of how to be successful

in using technology in instruction, models that are sustainable and replicable in classrooms everywhere. To be effective, these models need to first focus on learning for understanding, not on the technology tools themselves.

There is a need to use technology in focused meaningful ways, as opposed to using it just because we can. Mastery of content, skills and processes stays with students for a lifetime; the “coolness factor” of the technologies they use fades away.

The IQuest framework can be used to design lessons that connect technology to lessons seamlessly and incidentally. When designed well, technology-infused instruction is a naturally occurring series of learning opportunities in the classroom. A good friend is fond of saying, “the map in your hand should match the view on the ground.” Instruction should be that map, and your classroom should be learning’s ground zero.

If we first identify the ways we want to reach students and the ways in which we want them to demonstrate understanding, then the appropriate technologies will make themselves evident. When you consider using a technology in the classroom, here’s a good test: Ask yourself, “Is this technology being selected for my teaching preference or my students’ learning success?” If it is your teaching technology of choice, you may want to step back and reassess your instructional priorities.

Focus on Affective Aspect of Learning

In an age that espouses the notion that all children can learn, the tests and teaching strategies we use in education continue to neglect the affective aspect of learning. From the dawn of standardised testing, the focus has always been on mastering content because content mastery is easy to measure. The Bloom Commission (Bloom et al., 1956) identified affective