

Afterword

Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning

~ Winston Churchill

A conclusion is the place where you got tired thinking

~ Martin H. Fischer

There is no doubt within the field of education that enhanced creativity and intelligent uses of technology are essential for success in today's society. Despite that acknowledgement, the field of education has struggled to successfully integrate them appropriately into educational contexts. A key reason for this, we argue, is that we often misunderstand both the nature of creativity and the creative process as well as the nature of technology and technological progress.

Creativity comes from the Latin root *creo* with connotations of “bringing into being,” “making,” or “giving birth to.” This idea of bringing something new into being was a power only available to the gods. Over the years this mystic sense of creativity as being a gift of the gods has never really disappeared. It remains visible in the idea that creativity is a special, unique talent that appears *ab initio, ex nihilo*, either by the grace of the gods or catching a lucky break in the genetic game of chance. What these approaches rarely recognize is the complex nature of creativity, as well as the foundational structures (cognitive, social, disciplinary, technological) essential to support creative ideas and their dissemination. It is important to understand that creativity is not a magical trick or sleight of hand, but rather is the product of understandable processes and components. It is the result of factors within our grasp and comprehension. In this way, creativity is not just a special talent, but rather it is a way of thinking and working which can be learned, enhanced, and developed. Of course, that is not to say that it is simple or straightforward—indeed, we hope that the chapters, topics, and viewpoints in the book have pointed to the richness and complexity of the construct. If anything, supporting creativity

in education means that we need to allow for a more complex and richer view of it. We must go beyond simply throwing up our hands and assuming it is an undefinable, subjective space of “magic” or conversely assuming that it is linear or that it always looks and works the same in all contexts. Understanding the common threads of creativity is important. So too is allowing for contextual ways that it emerges and considering the factors and environments that help it to flourish.

Similarly, we need to go beyond simplistic ideas of technology. The word *technology* comes from the Greek (*techne*) meaning “art” and “craft.” These words offer a different picture from conceptions of technology as being the mere mechanical application of scientific principles. This art or craft foundation in the root of *technology* is different from the tool-centric, mechanistic ways that technology is often systemically taught or presented to teachers and learners. *Techne* is also the root of the word *technique*—so it has further connotations of learning through doing, of approaches learned on the job, and of tacit and subtle knowledge—something that may not be easily codified and put into language.

As we noted, our attempt to demystify creativity and technology is not to position it as a straightforward process. Clearly creative ideas do not emerge from a vacuum; they appear through the collision and cross-pollination of ideas (often from disparate disciplines or knowledge frameworks) which must be both embedded in a field of knowledge or a discipline. Yet at the same time, as we pointed out in an earlier chapter, they must also exist in an (in)disciplined as it were. Understanding creativity requires us to move fluidly between multiple poles which coexist—between common threads and diverse realities, between analysis and intuition, between divergent and convergent thinking, both within disciplines and between them, and between broad systems and local contexts. It is comprehensible and accessible but also nuanced and challenging.

There are no magic tricks to becoming creative—rather it is in placing trust in the process. And the process involves developing a foundation of knowledge that is both grounded in a discipline even while covering a wide intellectual range across the landscape of ideas. It means being willing to take the risk of putting them together in new ways and sharing them with the world. It is a participatory process, in that the creator or creators do a part of the work, and the world does another part. The world has the final say on whether a product or idea or artifact is truly regarded as being creative, whether it is *novel*, *effective*, and *whole*.

Bringing these new conceptions of creativity and technology to the field of education adds another layer to this complex mix. It requires us to go beyond ideas, into the pragmatics of actual classrooms, students, teachers, and practices—to the idea of *technique*. The word *technique* is related to the Latin root *texere*, meaning to weave or to construct. And “weave” as we know it today means to “interlace, especially to form a texture or design: to unite in a coherent whole; to move in a devious, winding, or zigzag course especially to avoid obstacles” (Merriam-Webster Dictionary).

A similar sort of weaving can be seen in the chapters of this book, threading together ideas of creativity, technology, and education, into a rich complex tapestry. Each of these topics is, in and of themselves, complex and rich topics that can and do have volumes devoted to them. Covering them together, in *one* book, in one

collection of interconnected chapters, is a challenging task. Clearly there is much more to be said and written about these topics and their interrelationships than can be covered here. We hope we have provided ideas, perspectives, and examples that contribute to the larger discourse.

Of course, the tapestry we have constructed has many holes, with many sections yet to be developed and many details yet to be defined. That said, we believe that this book, this collection of articles, allows us to provide a broad overarching scaffolding of ideas for further exploration, where themes from creativity, technology, and education weave their way through each other. This book is thus an act of synthesis, a first draft, as it were, of a much needed discussion of these ideas. Though we do not know (and cannot predict) what the final tapestry will look like, we believe that over these chapters lay out the broad contours of an emergent design. We look forward to how this design grows and develops in the future and are grateful for this opportunity to be part of this process.

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