

Preface

Creativity and Innovation Among Science and Art: A Discussion of the Two Cultures has 11 chapters and two forewords, one by President Gordon Gee and the other by Christine Charyton.

Chapter 1 contains a brief introduction to the importance of creativity and innovation in the United States and in the world.

Chapter 2 contains a section on creativity and the brain as well as music and the brain.

Chapters 3 and 4 include creative arts therapies: music therapy and art therapy, respectively. The aim is to discuss how creativity can be used as a therapeutic intervention.

Chapters 5 and 6 discuss creativity in science and contain how theoretical physics is creative as well as how chemistry can use creativity in the Research Experiences to Enhance Learning (REEL) program, respectively.

Chapter 7 discusses the application of creativity in engineering and how creativity and innovation are key components of engineering design.

Chapter 8 includes a discussion on musical creativity, improvisation, nonlinear dynamics, fractal analysis, and the scientific side of improvisation.

Chapter 9 includes the integration of science and art and how individuals may excel in both domains. Case studies of East and West are discussed including the Ukrainian culture.

Chapter 10 includes a discussion and reflection of the conversation. Key salient take home points are discussed by the participants of the conversation.

Chapter 11 includes the future directions for creativity and innovation in education and our given disciplines. Where do we go from here? How can creativity and innovation flower among the cultures?

Best wishes with your interests, passions, and dialog about the two cultures in science and art as well as other cultures.

Our conversation among the cultures in science and art...

To view and download our video of the videotaped conversation among us, go to: extras.springer.com.

Thank you to all the students in the Psychology of Creativity course for their questions that structured this conversation.

Special thank you to Segun Osiniusi for videography, as well as Segun Osiniusi, Caitlin Jones, and Jill Francis for attending, participating, selecting all the student questions, asking questions and engaging in dialog for our conversation as well as Dianne Charyton for administrative support.

Thank you to all the faculty serving as guest lecturers for my Psychology of Creativity class. We engaged in dialog about music and guest lecture experiences off camera, and on camera, we shared interesting conversation regarding the dynamics of creativity and innovation in our given fields and domains from the individual through societal perspectives. Hope you enjoy, are enjoying, and have enjoyed our videotaped conversation.

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A Discussion of the Two Cultures

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