# Chapter 10 New Horizons for Sustainable Growth in Eurasia Powered by Technology–Infused Adult Learning

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## ABSTRACT

On January 1, 2019, an American spacecraft, New Horizons, that had been traveling through space for 13 years discovered Ultima Thule, the farthest object in our Solar System. Technology had expanded the view of our immediate solar system beyond the boundaries of our current exploration and opened a vision for the growth of knowledge and discoveries. This chapter explores the vision of a geographical area that began with disappearing geographical, political, and philosophical boundaries and the emerging new horizons for the Eurasian Region. It explores the role of technology infused adult learning in the achievement of that vision that is sustainable. Over the past almost 30 years, these countries have engaged in a search for sustainable growth and for the ideal of a digital economy. Throughout history, adult learning has been at the core of any forward moving initiative. This chapter will address how this ideal can become reality through exploration of the theories and practices of adult learning infused with technology.

### INTRODUCTION

New Horizons ushered in the year 2019 with a discovery that signaled new horizons for the understanding of our Solar System. On January 1, 2019, an American spacecraft, New Horizons, that had been traveling through space for 13 years discovered Ultima Thule, the farthest object in our Solar System. Technology had expanded the view of our immediate Solar System beyond the boundaries of our current exploration and opened a vision for the growth of knowledge and discoveries. This chapter explores the vision of a geographical area that began with disappearing geographical, political, and philosophical boundaries

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and emerging new horizons for the Eurasian Region. It explores the role of technology infused adult learning in the achievement of that vision that is sustainable. Over the past almost 30 years, political changes have paralleled technological changes in the region and globally. Countries have engaged in a search for sustainable growth and have searched for the ideal of a digital economy. Throughout history, adult learning has been at the core of any forward moving initiative whether individual or organizational and no matter how large or small the organization. This chapter will address how this ideal can become reality through exploration of the theories and practices of adult learning infused with technology.

Facing the challenges and taking advantage of the opportunities within the countries of Eurasia requires new skills and insights which could only be gained through adult learning. One example of this importance of education in the region is the Kazakhstan project "Information Society 2030". This initiative highlights four main aspects of modern education: the process of education, the education system, the result of education, and the value of education.

## THEORETICAL FRAMEWORK

The theoretical framework for this chapter will include theories about our physical universe developed by scientists and theories about our educational universe developed by educational researchers. The current theories about our universe were developed in the early 1900's through the discoveries of Edwin Hubble while those in education began with adult educators during a similar period and continued with Knowles and others.

## **Theoretical Framework for the New Horizon**

Hubble's model of the universe transformed the thinking of centuries of astronomers but the discovery of Pluto introduced a dilemma closer to home. Hubble offered a model of an expanding universe whose expansion was accelerating. Before the early 1900's, people believed in an essentially static and unchanging universe. But the discovery of Pluto a few decades later expanded the horizon of our own solar system.

Comins and Kaufmann (2012) note that the beginning of modern cosmology is considered to have begun with Einstein's publication of his theory of general relativity in 1915. His general relativity equations indicated that the universe was not static but was instead either expanding or contracting. These new observations began with the work of the astronomer Henrietta Leavitt who published a paper in 1912 that was key to Hubble's calculations of the distance of the Andromeda Galaxy. The calculations showed that Andromeda was 2.2 million light years beyond the Milky Way Galaxy and therefore was not part of the Milky Way as previously thought. These results showed a model in which the universe was recognized to be larger and populated with far bigger objects than most astronomers had imagined.

This significant finding was only the beginning of an even more profound expansion of the model of the universe. Pais (1982) noted that the announcement by Edwin Powell Hubble in December 1924 "of an experimental result which settled a debate that had been going on for well over a century: the first incontrovertible evidence for the existence of an extragalactic object, Messier 31, the Andromeda nebula. Theoretical studies of cosmological models received even more important stimulus and direction from Hubble's great discovery of 1929 that the universe is expanding: nebulas are receding with a velocity proportional to their distance" (p. 268).

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