Assessing and Evaluating Adult Learning in Career and Technical Education

Victor C. X. Wang



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Brief Contents

Preface xi
The Editor xv
The Contributors xvii

Chapter 1 **The History of Career and Technical Education**.....1
Ernest W. Brewer

Chapter 2 **Principles of Scientific Management and Occupational Analysis**.....17
Victor C. X. Wang

Chapter 3 **Career and Technical Education: Myths, Metrics, and Metamorphosis**.....31
Kit Kacirek, Jules K. Beck, and Kenda S. Grover

Chapter 4 **Designing Culturally-sensitive Career and Technical Career Curriculum**.....51
Lesley Farmer

Chapter 5 **Teaching Philosophies of Career and Technical Education**.....75
Gregory C. Petty

Chapter 6 **Career and Technical Education's Role in Alternative Teacher Licensure**.....103
Edward C. Fletcher Jr., and Chris Zirkle

Chapter 7 **Workforce Competencies and Career and Technical Education**.....125
Maria Martinez Witte, James E. Witte, and Leane B. Skinner

Chapter 8 **Certification and Licensure Requirements for Career and Technical Educators**.....147
Chris Zirkle, Edward C. Fletcher Jr., Kristina L. Sander, and Jane Briggs

Chapter 9 **Prevalent Work Ethics in Career and Technical Education**.....167
Gregory C. Petty

Chapter 10 **Examining the Impact of Tracking on Long-term Student Outcomes**.....191
Edward C. Fletcher Jr., and Chris Zirkle

Chapter 11 **Adult Learning and CTE: A Shared History Influenced by Technology** ····215
Judith Parker

Chapter 12 **Challenges and Opportunities in Career and Technical Education**····235
Leane B. Skinner, Maria M. Witte, and James E. Witte

Chapter 13 **Career and Technical Education Technology: Three Decades in Review and Technological Trends in the Future**····259
Lesley Farmer

Index····279

Detailed Contents

Preface ····· xi
The Editor ····· xv
The Contributors ····· xvii

Chapter 1 The History of Career and Technical Education····· 1
1.1 Introduction····· 1
1.2 Background····· 2
1.3 The History of Vocational Education····· 3
1.4 Other Federal Activities Assisting Vocational Education····· 10
1.5 Future Trends····· 14
1.6 Conclusion ····· 15
References····· 15

Chapter 2 Principles of Scientific Management and Occupational Analysis····· 17
2.1 Introduction····· 17
2.2 Background····· 19
2.3 Major Issues Revolving Around Occupational Analysis····· 22
2.4 Future Trends····· 25
2.5 Conclusion····· 29
References····· 30

Chapter 3 Career and Technical Education: Myths, Metrics, and Metamorphosis····· 31
3.1 Introduction····· 31
3.2 Myths and Misconceptions about CTE····· 31
3.3 Origins of Career and Technical Education in the U.S. ····· 32
3.4 Myth Enablers····· 36
3.5 The Mythology Attending Career and Technical Education····· 38
3.6 Trends and Issues····· 44
3.7 Conclusion····· 46
References····· 47

Chapter 4 Designing Culturally-sensitive Career and Technical Career Curriculum····· 51
4.1 Introduction····· 51
4.2 Background····· 52
4.3 Curriculum as a Condition for Cultural Sensitivity····· 57
4.4 Online Curriculum Issues····· 65

4.5 Culture-sensitive Curriculum Implementation: An Action Research Model····66
4.6 Cultural Focus on Health Care····68
4.7 Future Trends····70
4.8 Conclusion····71
References····72

Chapter 5 Teaching Philosophies of Career and Technical Education····75
5.1 Introduction····75
5.2 Background····76
5.3 Major Philosophers of the Ancient World····83
5.4 Philosophical Methods····84
5.5 Meaning of Philosophy····86
5.6 Famous Philosophers Summary····91
5.7 Conclusion····93
References····99

Chapter 6 Career and Technical Education's Role in Alternative Teacher Licensure····103
6.1 Introduction····103
6.2 Background····104
6.3 Issues, Controversies, and Problems····106
6.4 Solutions and Recommendations····113
6.5 Future Trends····116
6.6 Conclusion····118
References····119

Chapter 7 Workforce Competencies and Career and Technical Education····125
7.1 Introduction····125
7.2 Background····125
7.3 Workforce Competencies····128
7.4 Proposed Solutions····135
7.5 Trends····139
7.6 Conclusion····141
References····143

Chapter 8 Certification and Licensure Requirements for Career and Technical Educators····147
8.1 Introduction····147
8.2 Background····148
8.3 Issues, Controversies and Problems····155
8.4 Solutions and Recommendations····159
8.5 Future Trends····162

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8.6 Conclusion····163
References····163

Chapter 9 Prevalent Work Ethics in Career and Technical Education····167
9.1 Introduction····167
9.2 Background····168
9.3 Work····170
9.4 Rationale of Career and Technical Education Toward Work····171
9.5 The Meaning of Work in Early Civilizations····171
9.6 The Protestant Ethic of Work····173
9.7 Calvinism, Puritanism and the Protestant Work Ethic····173
9.8 The Protestant Ethics of Work in the New World····174
9.9 Pestalozzi's Class Structure, Work Ethic and Career and Technical Education····175
9.10 The Industrial Revolution and the Work Ethic····175
9.11 Beginnings of the Erosion of the Work Ethic····176
9.12 Psycho-social Development····177
9.13 Five Behavioral Stages of Human Development····178
9.14 Process of Psychological Development····179
9.15 Cognitive Domain····180
9.16 Psychomotor Domain····180
9.17 Affective Domain····180
9.18 Dewey's Influence on the Development of the Work Ethic····181
9.19 How the Work Ethic and Career and Technical Education Connect to the World····181
9.20 The Link of Values to Work Ethic and Career and Technical Education····182
9.21 Value Types····182
9.22 The Link of Ethic and Logic to Work Ethic····183
9.23 Logic and Education····183
9.24 Two Forms of Logic····183
9.25 Conclusion····184
9.26 Summary····185
9.27 Occupational Work Ethic Inventory Factors····186
References····187

Chapter 10 Examining the Impact of Tracking on Long-term Student Outcomes····191
10.1 Introduction····191
10.2 Background····192
10.3 Issues, Controversies, and Problems····194
10.4 Solutions and Recommendations····198
10.5 Future Trends····207

10.6 Conclusion····207
References····208

Chapter 11 Adult Learning and CTE: A Shared History Influenced by Technology····215
11.1 Introduction····215
11.2 Background····216
11.3 Evidence and Consequences of Connections Between Andragogy, CTE, Technology····222
11.4 Future Directions····230
11.5 Conclusion····231
References····231

Chapter 12 Challenges and Opportunities in Career and Technical Education····235
12.1 Introduction····235
12.2 Background····236
12.3 Challenges and Opportunities····237
12.4 Future Trends····251
12.5 Conclusion····253
References····254

Chapter 13 Career and Technical Education Technology: Three Decades in Review and Technological Trends in the Future····259
13.1 Introduction····259
13.2 Technology Trends····260
13.3 CTE Instructional USE of Technology····265
13.4 Trends····272
13.5 Instructional Technology Future····274
13.6 Conclusion····276
References····276

Index····279

Preface

What should be the goals of Career and Technical Education (CTE)? The question lies at the heart of the field of career and technical education, which parallels the efforts of humanity from the Stone Age to modern civilization. A satisfactory answer requires a thorough examination of historical, philosophical, practical and theoretical issues. Almost every community college offers CTE programs in the United States; over two hundred universities offer degree programs in CTE in the nation. Does everyone who practices in this particular field understand the goals of CTE? What about those who make important decisions that will impact those who practice in this field?

CTE has come a long way. Prior to 6000 years ago, there were unorganized CTE programs. Vocational skills were learned from watching one's elders either at the campsite or in a worksite. Learning could be considered an act to gain knowledge or skill by observation. Trial and error could be the best learning method. Then, there were organized programs in Egypt 6000 years ago where scribes were required to copy documentation from documentation so that training and learning would be more effective. It is believed that the ancient Egyptians began to develop a civilization based on scientific knowledge, government, and religion in the valleys of the Nile, the Tigris, and the Euphrates rivers. Prior to the Industrial Revolution, CTE was called manual training. Later at the turn of the 20th century, it was called manual arts. A year later, it was called industrial arts. Scholars and practitioners used the term vocational education for decades. Eventually, in the 1990s, most programs started to call the field Career and Technical Education to distance the field from being closely associated with blue collar workers because the image of a skilled craftsman may not appeal to our high school students. In fact, we also have a large number of CTE learners preparing for careers requiring a baccalaureate or higher level degree. Therefore, the name "vocational education" no longer reflects what we do and practice in the field. Career and technical education is a vivid name that truly reflects the nature of the field in the 21st Century.

From the cotton mills in 1803 to modern factories, principles, philosophies, theories and practice of CTE by leading individuals have helped shape the field. As the ancient nations focused on apprenticeship systems, the Industrial Revolution put a strain on the apprenticeship programs in the then developing nations, including the United States. In this information age, CTE has become a multibillion dollar training enterprise. To make our students more competitive in the labor force and to make our nation economically strong and firms internationally competitive, we have to depend on CTE to train today's workers of various kinds. Without a doubt, CTE has become a vibrant source of workforce development across the globe. It has matured into a sound and meaningful

program for high school and post-secondary students across interest areas and abilities. After the first passage of the Morrill Act, CTE programs became available at land grant universities. As our nation's leaders provide more federal funding to this strong field of study, CTE will definitely fulfill its number one objective, that is, to meet the manpower needs of society.

This volume brings together definitive writings on CTE by leading figures and by contemporary thinkers in the History, Philosophy, Practice and Theories of the field. In the past, we had great texts written by prominent figures such as Roy Roberts, Rupert Evans and Edwin Herr. Philosophies and principles advanced by Prosser and Miller reflected the cultural needs of the people in the past. As our society changes, we realize how pervasive technology and information skills are needed to meet the manpower needs of society. At the same time, what we lack is a definitive book on the History, Philosophy, Practice and Theories to prepare people, young and old, for the world of work in the 21st Century. No where can we find a volume like this one. This book has filled a much needed void in the literature and it will equip our scholars and practitioners with knowledge, skills, and attitudes to succeed in the field of CTE.

Acknowledgments

To ensure quality of books, editors/authors have their books go through the double blind review process so that their books will become refereed books in the field. This book is no exception. All entries are written by knowledgeable, distinguished scholars from many prominent research institutions. The reviewers were invited based on their sustained scholarship in this field. Therefore, I extend a huge thank you to the following reviewers/authors:

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- James E. Witte, Auburn University, USA
- Maria M. Witte, Auburn University, USA
- Chris Zirkle, Ohio State University, USA

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May 29, 2009

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Victor C. X. Wang, Ed.D., an Associate Professor, joined the faculty at California State University, Long Beach (CSULB) in 2002 and has been the credential coordinator of CTE and adult education since 2005. Dr. Wang's research and writing activities have focused on workforce education, the foundations of adult education, adult teaching and learning, training, transformative learning, cultural issues in vocational and adult education, distance education, human performance technology and curriculum development. He has published well over 80 journal articles, book chapters and books during his seven years at CSULB and has been a reviewer for four national and international journals. Currently he serves as the editor in chief of the *International Journal of Adult Vocational Education and Technology*. He has won many academic achievement awards from the universities in China and the United States, including the Distinguished Faculty Scholarly & Creative Achievement Award in 2009.

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1

The History of Career and Technical Education

Ernest W. Brewer

Abstract: This chapter examines the history of career and technical education in the United States beginning with its earliest forms in the 16th and 17th centuries and continuing on through present-day society. Chronologically formatted, the primary focus is on how the nation's domestic and international issues during each time period affected the development of vocational education, leading to major federal government legislation. Following a brief introduction of the subject, the background section will provide the reader with basic definitions of career and technical education as discussed by various authors, noting the changes of such definitions over the years. The main body of the chapter is divided into several sections based upon time periods. Each section will discuss national issues and major legislation reflecting changes in vocational education. Finally, the future of career and technical education will be examined, followed by a brief conclusion.

1.1 Introduction

Career and technical education programs have been around for hundreds of years in one form or another. Well before this nation was founded, fathers and mothers were passing on important survival skills to their children (Evans, 1971; Keller, 1948). The first forms of formal education of any type were reserved for religious teachings and groups (Keller, 1948). However, as the needs of the people changed, so did education. In this nation, vocational education began in the form of apprenticeships in an effort to ensure that various aspects of community work were efficiently and effectively completed (Barlow, 1974; Brewer, Campbell, & Petty, 2000; Keller). With the onset of the Industrial Revolution, apprenticeships were no longer capable of providing all of the necessary training to operate the new forms of machinery (Barlow). Since that time, technological changes and the nation's workforce needs have dictated the direction of vocational education in the United States.

This chapter will demonstrate the various changes that career and technical education has undergone over the years. It will provide background information on these types of programs, including the changes in definition that vocational education has undergone over time. Furthermore, it will specifically discuss how the issues and controversies related to the history of our nation have affected the status of vocational education, as well

as how federal legislation has attempted to solve some of these issues. Finally future trends for the field of career and technical education will be presented, followed by a brief conclusion.

1.2 Background

Over the years, vocational education has gone through many changes in meaning and scope. In general, vocational education is characterized by teaching a skill or skills to students that will be useful in the workplace. However, this explanation does not satisfactorily describe the dimensions of vocational education, especially in how it is used in today's society. A review of literature provides a wide variety of perspectives on the subject, as well as descriptions of vocational education as it has changed over time.

F. J. Keller, a notable historian on this subject, looked at vocational education in a unique way. Instead of simply describing a method of educating students, Keller believed that vocational education was actually a way of living one's life (Keller, 1948). He believed that vocational educators were charged not only with teaching specific skills, but also with teaching students how to live and act in the workplace and in society. He attributed the first form of vocational education, to monks, going as far back in history as the 7th century. Even before more structured forms of apprenticeships evolved, Keller claimed that monks were teaching each other the skills needed to conduct research and teach, along with necessary life lessons needed to live a productive life in the monastery (Keller, 1948).

Eventually, the greater society began to see the benefits of this type of teaching, and apprenticeships became the common standard of passing on vital work skills to others during the colonial period of our nation's history. Several authors have defined apprenticeships as forms of education where a master provides direct instruction of mastering a skill to a student, or apprentice (Barlow, 1974; Evans, 1971; Keller, 1948; Kneller, 1963; Miller, 1993). As discussed in future sections below, some masters expanded their teachings to include other basic educational components, such as reading and writing (Barlow, 1974; Kneller, 1963; Miller, 1993). Many apprenticeships, especially during this time period, also included room and board for the students (Barlow, 1974).

It was during the Industrial Revolution, beginning in the late 18th century, that apprenticeships became obsolete and the more contemporary forms of vocational education were founded (Barlow, 1974). Barlow (1974) attributes much of this change to two movements during the 19th century: the practical arts movement and the trade school movement. While these movements are discussed in more detail in future sections, the core concepts of such movements are important in understanding the early definitions of vocational education. The practical arts movement provided skill-based learning by developing unique curriculum, such as domestic science and agriculture courses (Barlow, 1974). However, this movement also continued to stress the importance of general education. The trade school movement, in contrast, focused specifically on teaching a trade in a more

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