

Contents

1	Introducing a Frame for Creativity: Transdisciplinary Thinking and the Seven Skills in This Book	1
	Transdisciplinary Thinking Skills	2
	Building Out the Ideas	5
	References	5
2	Learning to See: Perceiving as a Transdisciplinary Habit of Mind	7
	Disciplinary Lenses Shape Our Personal Worlds	8
	On Looking: A Framework for Perceiving	8
	Perceiving in Educative Terms	10
	Conclusion	11
	References	11
3	Making Sense of What You See: Patterning as a Transdisciplinary Habit of Mind	13
	Pattern Recognition	14
	Pattern Selection	15
	Pattern Formation	15
	Patterning in the Classroom	16
	Conclusion	19
	References	20
4	Finding the Foundational Ideas: Abstracting as a Transdisciplinary Habit of Mind	21
	Experiencing the Abstract	22
	“Abstracting Is Just Like” ... Categories and Analogies	22
	Analogies in Disciplines and Human Cognition	23
	Abstracting in Action	24
	Abstracting and Creativity	25
	Abstracting in Education	26
	Examples of Abstraction in Education	26

Conclusion 28

References..... 29

5 Thinking with the Body: Embodied Thinking as a Transdisciplinary Habit of Mind 31

Putting the Body Back into the Mind 33

A Tool for Thinking Across the Disciplines 34

Constructing the World Through Embodied Ideas 35

Embodied Thinking for Creative Education 36

Conclusion 39

References..... 39

6 Embodied Thinking as Empathy through Gaming: Perspective Taking in a Complex World 41

Frameworks for Empathy 43

Empathy as an Essential Skill for Twenty-First Century Learning 44

Conclusion 49

References..... 50

7 Representations of Real-World Phenomena: Modeling as a Transdisciplinary Formative Skill and Practice 51

Models and Modeling 54

Modeling as a Learned Competency 56

Modeling for Creative Education 58

Conclusion 62

References..... 62

8 Playing with Ideas for Creativity and Learning: Play as a Transdisciplinary Habit of Mind 65

Developing Through Play: Evolution’s Motivating Force for Learning 66

Playing and Learning 67

Creating Worlds Through Creative Play: Worldplay 68

Playing at Work, Working at Play 69

Exemplifying Play in Creative Education..... 70

Conclusion 72

References..... 73

9 Transform and Transcend: Synthesis as a Transdisciplinary Approach to Thinking and Learning 75

Thinking Across Disciplines: What Is Synthesis in Thinking?..... 76

Exemplifying Synthesis 77

Unpacking Synthesis: From Synthesis for Meaning to Creative Synthesis..... 79

Digital Tools for Synthesis 80

Conclusion 82

References..... 82

10 Connecting the Threads	85
Valuing Creativity in the Present and into the Future	86
The Challenge in Creative Education	87
References	88
Index	91



<http://www.springer.com/978-3-319-59544-3>

The 7 Transdisciplinary Cognitive Skills for Creative
Education

Henriksen, D.

2018, XV, 92 p. 19 illus., 17 illus. in color., Softcover

ISBN: 978-3-319-59544-3