Chapter 10
A Qualitative Study of Teachers' Understanding of Sustainability:
Education for Sustainable Development (ESD), Dimensions of Sustainability, Environmental Protection

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ABSTRACT

This qualitative study was focused on exploring how in-service teachers' who were attending a three-day "Educating for Sustainability" workshop made sense of sustainability. Another goal of this study was to examine teachers' perceptions of the portrayal of the three dimensions of sustainability (environment, economy and social equity) in short movies that served as "real world" exemplars of sustainability that were freely available online through YouTube or other websites. Data was collected largely through individual semi-structured interviews, but also through questionnaires and written and drawn documentation. The findings, obtained through the constant-comparative method of coding, indicated that teachers' spontaneous descriptions of sustainability emphasized the environmental and economic dimensions of sustainability, but overlooked the equity dimension of sustainability. The videos helped teachers incorporate the 3E's into their sustainability discussions when all three dimensions were addressed, but when the social equity dimension was missing, then it tended to go unnoticed.

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INTRODUCTION

Growing evidence for the substantial and accelerating impacts of human activities on our planet has led to global and national calls for an improved understanding of sustainability. The term "sustainability" has been defined in a multitude of ways (e.g., Little II, 2014), adding to the difficulty of conveying the concept to educators and their students. The definition below from the US Environmental Protection Agency captures elements that are common to many definitions of sustainability: the need to preserve the natural systems upon which life depends while meeting the social, economic and other needs of current and future generations:

Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations (EPA, 2015)

Numerous scholars and practitioners have emphasized the importance of education in leading us toward sustainability (e.g., Sterling, 2001; Wheeler & Byrne, 2003; Edwards 2006, Feinstein, 2009; Nolet, 2009). Education for Sustainable Development (ESD) is an over-arching paradigm that develops knowledge, skills, and values essential to building communities that are environmentally sound, socially equitable, culturally sensitive, and economically just (United Nations, 2002). The United Nations proclaimed the 10-year period from 2005 to 2014 as the Decade of Education for Sustainable Development (DESD) to raise awareness and promote the teaching and learning of sustainability. The leading international agency's goal was to integrate the principles, values, and practices of sustainable development into all aspects of education (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2004). ESD, in its broadest sense, is education for social transformation with the goal of creating more sustainable societies (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2012).

Although considered by some as an oversimplification or misrepresentation of a complex and multifaceted concept (e.g., Lozano, 2008; Feinstein and Kirchgasler, 2014), sustainability is commonly portrayed as an integration of three "dimensions" involving a balance between environment, economy, and society. This is also referred to as the "3E's", where social equity makes up the third "E." Each dimension or "pillar" in this tripartite vision of sustainable development (SD) is subject to multiple interpretations, but as observed by Boström (2012) it is "nonetheless customary to characterize sustainable development in a familiar typology comprising three pillars: environmental, economic, and social (or sociocultural)" which are also referred to as the three 'Ps' (People, Planet, and Profit) or the three 'Es' (Environment, Economy, and Equity)." In a very broad sense, the environmental dimension is concerned with the world's natural resources and ecosystems; the economic dimension refers to the wealth and financial resources in terms of the production and consumption of goods and services; and the social equity dimension addresses respect for basic human rights, health, peace, security, and education (UNESCO, 2004). Boström further noted that "the relationships among these dimensions are generally assumed to be compatible and mutually supportive." Of the three pillars, the social dimension is widely described as "the most conceptually elusive pillar in SD discourse" and the social aspects of sustainability have received less attention than have the environmental and economic elements (Murphy, 2012 and references therein).

Various visual representations have been used to model the relationship between the three dimensions of sustainability (Mann, 2009), but two models, the Venn Diagram or interlocking circles (Figure 1) and the concentric circles diagram (Figure 1B), are most commonly used in the literature (Adams, 2006; Scott-Cato, 2009; Strachan, 2009). The interlocking circles model is often used to emphasize that the