

Schunn et al: Define Creativity and Innovation

An interdisciplinary analysis often stumbles over disciplinary confusion and conflict over definitions of core terms, which fundamentally frame the research and conclusions, but also tend to be elusive and abstract. There cannot be productive interdisciplinary collaborations without developing a common understanding of the core constructs.

A number of analogies, documented historical cases, contemporary research, and key words lead us to definitions of innovation and creativity. Creativity involves the introduction of new variables, significant leaps, and novel connections. A subset of creativity, innovation, involves the creation of a new idea but also involves its implementation, adoption, and transfer. Innovation and discovery transform insight and technology into novel products, processes, and services that create value for stakeholders and society. Innovations and discoveries are the tangible outcomes. Creativity is needed to produce these outcomes. Innovation and discovery processes should be formal processes that harness creativity to those ends.

From a product perspective, creativity usually reflects aspects of novelty and/or utility of the products. From a process perspective, creativity involves the social, cognitive, and/or physical processes situated in individual, team, and organization contexts that repeatedly produce innovative products. Creative outcomes can occur through serendipity, but it is the creative processes that regularly produce creative outcomes.

Source:

Christian D. Schunn, Paul B. Paulus, Jonathan Cagan, and Kristin Wood, 2006, Final Report from the NSF Innovation and Discovery Workshop: *The Scientific Basis of Individual and Team Innovation and Discovery*, Workshop at NSF, 17-18 May 2006

ME 370: What is Innovation?

Vogel et al: Define Innovation in terms of product development (p. 24)

Innovation, then, is a new comprehensive approach to product and service development that scores high on consumer value, connecting to and altering consumer lifestyles. Innovation is the ability to find nonobvious opportunity in what, after the fact, seems obvious and needed to everyone else.

We have further clarified the term *innovation* by adding the word *pragmatic*. Pragmatic innovation is a balanced approach that not only explores a range of interesting alternatives but converts that exploration into successful, profitable products.

Source:

Craig M. Vogel, Jonathan Cagan, and Peter Boatwright, *The Design of Things to Come: How ordinary people create extraordinary products*, 2005, Pearson Education, Upper Saddle River, New Jersey. ISBN 0-131-86082-8

Dean Kamen:

<http://dsc.discovery.com/tv-shows/curiosity/topics/d-kamen-what-is-innovation.htm>

Wikipedia

(<http://en.wikipedia.org/wiki/Innovation> accessed 29 April 2013)

Innovation is the development of new values through solutions that meet new requirements, inarticulate needs, or old customer and market needs in value adding new ways.

This is accomplished through more effective products, processes, services, technologies, or ideas that are readily available to markets, governments, and society.

Innovation differs from invention in that innovation refers to the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself.

Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better.