Engineering Design Methology

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# Theory of Science

When performing research, a researcher makes different assumptions about how and what they will learn during their studies [1]. These assumptions might also be called paradigms, or worldviews, which Creswell defines as “a general orientation about the world and the nature of research that a researcher holds” [2]. One such worldview is postpositivism, a quantitative research approach often represented in traditional research [3]. Postpositivists believe that there is no absolute truth and that knowledge is shaped from data and rational consideration [3]. According to Kuhn, an acceptable theory in within postpositivism is simple, provides accurate predictions and shows compatibility with other contemporary theories [4]. On the other hand, proponents of social constructivism believe that knowledge is created from individuals interaction with the environment [5]. As such, truth is not asbsolute and generalizable since phenomena all happen within a certain time and context [6]. Lincoln and Guba claims that a theory should aim to be if it is more informed and elaborates on earlier theories [7].