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Fixed point index properties are used to prove existence of positive solutions to the abstract Hammerstein equation  $u = LFu$  where  $L : E \rightarrow E$  is a compact linear operator,  $F : K \rightarrow K$  is a continuous and bounded mapping,  $E$  is a Banach space, and  $K$  is a cone in  $E$ . The results are then applied to obtain existence results for positive solutions of two point boundary value problems for differential equations. (Received August 16, 2012)