Abstract. A new characterization of the uniform convexity of Banach space is obtained in the sense of Bishop-Phelps-Bollobás theorem. It is also proved that the couple of Banach spaces \((X, Y)\) has the Bishop-Phelps-Bollobás property for every Banach space \(Y\) when \(X\) is uniformly convex. As a corollary, we show that the Bishop-Phelps-Bollobás theorem holds for bilinear forms on \(\ell_p \times \ell_q\) \((1 < p, q < \infty)\).