In this paper, we compare in one particular case, the arithmetic D-modules introduced by Berthelot and the arithmetic D-modules introduced by Mebkhout and Narvaez-Macarro. We prove that there exists an equivalence of categories of coherent D-modules when you consider the arithmetic D-modules introduced by Berthelot on a projective smooth formal scheme $\mathcal{X}$, over some discrete valuation ring R of mixed characteristics $(0, p)$, that is endowed with an ample divisor, along which the coefficients of the differential operators are overconvergent. On the side of Mebkhout-Narvaez-Macarro, you have to look at differential operators over a smooth, affine, weakly formal scheme over R, whose p-adic completion is the complementary of Z into $\mathcal{X}$. The equivalence of categories is given in one direction by taking global sections of the D-modules.