Developing worksheets and class for Japanese University Students, based on Physics Education Researches

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The importance of cumulative improvement in physics instruction has been emphasized by L. McDermott for many years [1]. For the Physics Education Research to be useful and valid, it is important to develop some courses or instructions based on the results and check whether it works or not. Based on some knowledge about students’ misconceptions [2, 3] and some course materials [4, 5], the author developed a series of worksheets, which are appropriate for Japanese students, and gave a class on Introductory Optics (mostly Geometrical Optics) for general education (liberal arts education). The result of pre-post testing indicates that even a novice teacher who is not well skilled in teaching, could make some “good” (relatively high gain) class.