

The flipped spotters learning model is a modern student activity-based and learner-centered method in medical education. The aim of the study was to determine if the flipped spotters learning model improves students' learning. Participants were 1214 medical students of Polish (PD) and English (ED) divisions between 2013 and 2019 academic years at the University of Warmia and Mazury in Olsztyn, Poland. They were divided into a traditional group (control group) and a flipped spotters learning group (treatment group). Each flipped spotters learning group was asked to label anatomical structures on various specimens according to the structures name list prepared by the teacher on the multiple stations. The flipped spotters learning group leaders were instructed to take pictures with the appropriately marked structures on each of the human body prosections. After completion of the class, each flipped spotters team received photos for evaluation. In the flipped spotters learning model, the students strengthened their skills and knowledge by matching specimens independently as a form of practical laboratory activities. Students' performance in gross anatomy practical examinations between the group utilizing the flipped spotters learning model, and the group with the traditional teaching model was compared. Students participating in the treatment group achieved, on average 9.9 percentage points higher among PD students, and 13.0 percentage points higher among ED students than the control group in all nine practical examinations (the effect size ranging from 0.47 to 0.95). The results suggest the positive impact of flipped spotters model on improving student's performance in the practical examinations.

KEYWORDS

cadavers, flipped classroom, flipped spotters, gross anatomy education, medical education, medical students, practical examination, spotters, undergraduate education