

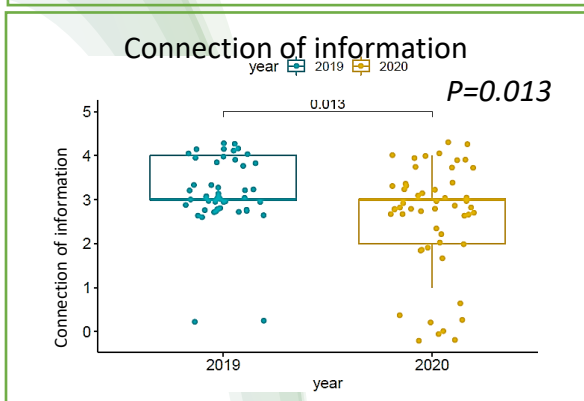
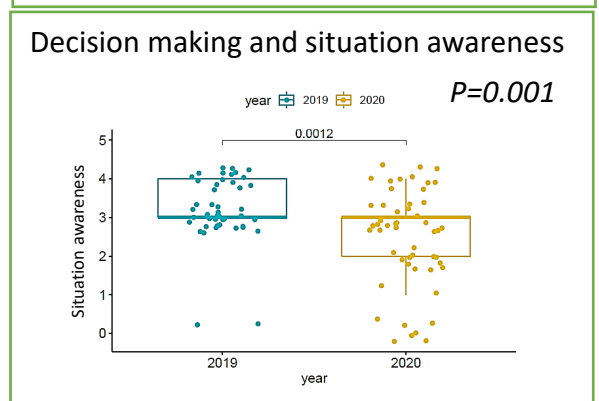
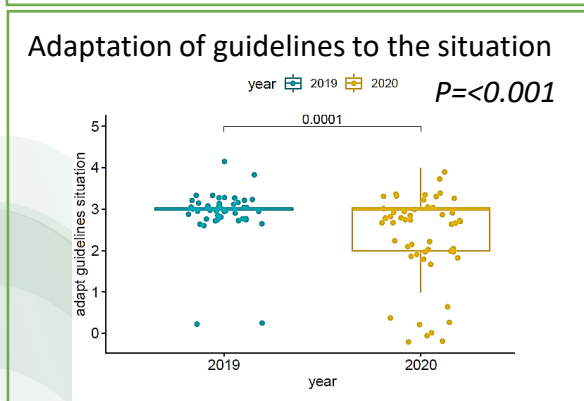
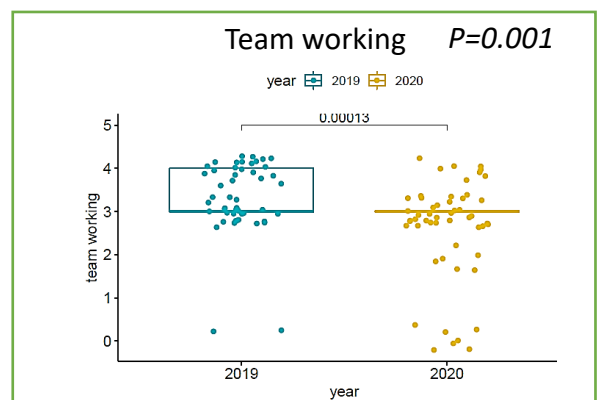
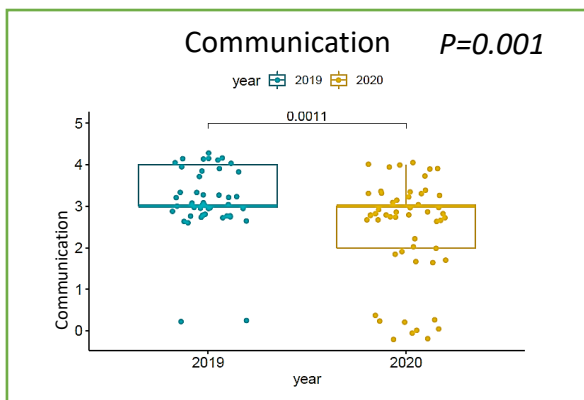
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Background and Aims: Patient management training is a key goal at Humanitas Medical School. The articulated “Professionalism Activities Program” of our curricula has among its goals to develop student’s technical skills (TS) and non-technical skills (NTS). This Program includes “Simulation-Based teaching” as a powerful facilitator. Because of the current COVID-19 pandemic, the simulation-based learning activities modality switched from face-to-face to blended. This study aims to compare the blended-based learning outcomes with the previous face-to-face learning outcomes and to identify future challenges, and perspectives.

Methods: Our study compared the 5th year medical student performance during the face-to-face simulation-based learning in 2019 (Face-to-face-group) with the 5th year medical student performance obtained with the blended learning implemented during the COVID-19 pandemic (Blended-group). Each group consisted of 60 medical students that had the same tutor for their clinical simulation-based learning activities, feedback, and assessment. The assessment was identical for the two groups and consisted in the continuous evaluation of student’s TS and NTS through 35 variables measured with a 5-point Likert-scale by the same tutor and analyzed through Wilcoxon signed-rank test.

Results: There was not statistically significant difference between the two groups when TS variables were assessed. Statistically significant differences were found in different NTS variables. Communication with patients and colleagues ($P=0.001$), team working ($P<0.001$), adaptation of guidelines to the situation ($P<0.001$), decision making and situation awareness ($P=0.001$) and connection of gathered information ($P=0.013$) were significantly reduced in the Blended-group.



Discussion: Current COVID-19 pandemic has a dramatic effect on medical education. Blended learning results to be a valid solution to maintain the learning processes. In our study, though, with the blended modality, students did not obtain similar levels of NTS performance as with the face-to-face modality. Better understanding and analysis are needed for programming arrangements to reach through the blended modality this important goal.

Conclusion: Among the several challenges of medical education in this current situation, the development of the NTS needs special effort and reinforcement. With some challenging changes, blended learning approach may not only be a tool for tackling the medical education dilemma during this pandemic but might also serve to define new strategies for teaching activities in the future.