

Onliners versus On-grounders in Higher Education: A Two-Step Cluster Analysis

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Abstract

Are students who prefer online education different from those who prefer on-ground education, and how? This is an important question because educational institutions need to better understand student segmentations. This research answers this question by examining 251 survey responses of students enrolled in Computer Information Systems courses at three universities over five years (2016-2021). It reviews student attitudes, perceived skills, and their sociological characteristics. Through two-step cluster analysis unsupervised machine learning, two distinct clusters of students emerged -- Onliners and On-grounders. Eleven group characteristics are identified. The top nine out of these 11 characteristics for Onliners, in comparison to the On-grounders, are: select more online courses, regard online instruction as effective, work better without supervision, rely less on classroom interactions in learning, value convenience, can prioritize, are better organized, better prepared, and older. Identifying student segmentations by group characteristics supports decision making in student recruitment and retention as well as educational resource allocation.

Keywords: Online education, face-to-face instruction, cluster analysis, machine learning, persona, cluster