Megaclasses in Statistics Education: Establishing a Research Framework in a Complex Domain

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Recent years have seen the emergence and expansion of several types of university megaclasses relevant to statistics education, especially regarding introductory statistics. Megaclasses involve very large numbers of students and large teaching teams. They often include online communities of learners and instructors and might build on the use of remote learning and interactive technologies. Given the unique characteristics of such teaching/learning environments, the paper outlines research needs and challenges related to six separate but related areas: (1) teaching methods; (2) cognition and learning; (3) emotions, attitudes and beliefs; (4) self-management and metacognition; (5) social interaction and inquiry patterns; and (6) service satisfaction and user experience. These areas can benefit from the use of mixed methods involving both quantitative and qualitative techniques, coupled with the need for data mining to identify usage patterns, and netnographic methods to evaluate course-related discourses in online and web-based learning environments.

Key Words: Massive Open Online Classes (MOOC), megaclasses, research framework, virtual universities