

Class Size Determination and Decision Making in LIS Online Education

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ABSTRACT

The purpose of this study was to develop a national landscape of the decisions made by LIS programs regarding online course enrollment caps. Online education expands learning opportunities for all students and is particularly attractive to nontraditional students who are more likely to have employment and family obligations that make attending traditional face-to-face classes difficult. At the same time, online learning can exacerbate existing opportunity gaps between certain student groups, depending on how well-prepared students are for online learning. This survey methodology study investigated course enrollment caps and the reasons behind the limits placed by Master of Library and Information Science (MLIS) programs nationwide, in an effort to identify ways online education structures at the University of South Carolina iSchool could be transformed to ensure a resilient future of diverse library and information science (LIS) professionals.

ALISE RESEARCH TAXONOMY TOPICS

online learning; pedagogy; standards; education programs; schools; students

AUTHOR KEYWORDS

class size; instructional design; online instruction; course administration

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INTRODUCTION

During the 2019-2020 academic year, COVID-19 health restrictions pushed university courses online en masse—a shift that did not affect the 64% of MLIS programs already fully online, many of these having embraced distance and distributed offerings for decades (Marcotte, 2019). Online education expands learning opportunities for all students and is particularly attractive to nontraditional students who are more likely to have employment and family obligations that make attending traditional face-to-face classes difficult (Aslanian, 2001). An online classroom is available 24-hours a day/7-days a week, providing students with chances for one-on-one instructor interaction, with potential for personal and private feedback throughout the learning process. At the same time, online learning can exacerbate existing opportunity gaps between certain student groups, depending on how well-prepared students are for online learning (Johnson & Mejia, 2014). Xu and Jaggars (2013), in a study of 40,000 community and technical college students new to online courses, found that younger, part time, Black, Latine, male, and students with lower levels of academic skill were found to “perform markedly worse in online courses than in traditional ones” (p. 9).

The University of South Carolina iSchool has a thriving history of excellence in online learning with its faculty expertise firmly grounded in instructional design and culturally competent pedagogy. In Spring 2020, iSchool faculty discussed ways to further support online student achievement, expanding its commitment to proactively addressing factors that contribute to the opportunity gap. Faculty determined setting research-informed course enrollment caps was necessary in order to establish online education structures that ensured marginalized and minority students were not left behind. This survey methodology study investigated course enrollment caps and the reasons behind the limits placed by Master of Library and Information Science (MLIS) programs nationwide, in an effort to identify ways online education structures at the University of South Carolina iSchool could be transformed to ensure a resilient future of diverse library and information science (LIS) professionals.

LITERATURE REVIEW

Class size decisions in online learning and teaching draw upon the same basic pedagogical foundations used to determine size in traditional class settings. Students in smaller classes of any sort perform better in all subjects and on all assessments when compared to their peers in larger classes (Brühwiler & Blatchford, 2011; Chingos, 2013). This is especially the case in entry-level courses where students are adjusting to new learning frameworks, new instruction methods, and new content (Blatchford et al, 2002; Horning, 2007). Smaller class sizes allow for more student-instructor engagement, more detailed formative evaluation and feedback, and student interaction with peers rather than passive listening. The benefits are greatest for underrepresented and disadvantaged populations (Dynarski, Hyman, & Schanzenbach, 2013).

For undergraduate learners, the optimal class size sits between 15 and 30 (Burch, 2019; Parks-Stamm, Zafonte, & Palenque, 2017). For graduate learners, the size range is 8-15 (Burch, 2019). Even so, simply reducing class size does not always mean better learning. The reduction in class size is most effective when teachers adjust design decisions and pedagogical practices to take advantage, establishing a strong sense of community (Green, Inan, & Denton, 2012).

Specific to graduate education, there are four foundation blocks necessary for optimal learning by adult students: 1) the application of accessible and consistent course design (Moorefield-Lang, 2019), 2) copious amounts of scaffolding tools and resources for learning (Banas & Wartalski, 2019), 3) tasks designed to replicate real-world activities rather than decontextualized exercises (Calhoun & Green, 2015), and 4) a strong sense of community developed through intentional communication and trust building (Cadima, Ojeda, & Monguet, 2012).

A FRAMEWORK FOR EVALUATION OF CLASS SIZE

Despite the consistent numerical ranges recommended in the literature, a more careful read indicates optimal class size depends on the desired course interaction and its design for student learning. The more autonomous the student, the more distance can exist between the student and the instructor without ill-effect on learning (Moore, 2019). Taft, Perkowski, and Martin (2011), addressing this nuance, developed a framework for evaluating class size in online course design that is situated along an objectivist/constructivist continuum. An objectivist course design focuses on instructor delivery of information in a one-way stream of content. A larger lecture delivery, this course is content-based with minimal student-instructor interaction. There are no numerical limits to student enrollments in this design, and it is wholly up to the student to satisfactorily master learning outcomes by attending class and performing well on evaluation activities. Objectivist course design relies on students taking full responsibility for their own learning experience.

Constructivist course design is keenly student-centered, instructor-facilitated, and interactive. Students bring their own experiences to the course, interacting with the instructor one-on-one. This design requires class sizes of 20 or fewer students, a number determined by the critical mass of students engaged in discussion and problem-based learning (Lobry de Bruyn, 2011). Constructivist courses demand regular formative feedback on student performance and highly-directive engagement throughout, and so are much more labor intensive for the instructor. Course design may shift far to either the objectivist or constructivist edges of the spectrum or may blend the two approaches with a mix of lecture, seminar, and varied opportunities for student-instructor interaction throughout the semester.

For constructivist designed seminars, labs, and skills-based learning, smaller class sizes are needed (Burruss et al., 2009). If a course is designed primarily as low-interaction/objectivist, a lecture format with high enrollment can be reasonably effective. Larger classes are possible, but only if carefully designed to be efficient and content-focused, requiring less instructor feedback and engagement (Lowenthal et al., 2019). Larger courses also need to utilize different modes of engagement to provide a rich learning environment (Haynie, 2014). This may mean involving teaching assistants to support delivery of more difficult content, and aid in providing formative feedback as the course progresses. Because effective online teaching focuses on the process of learning (student participation and engagement, meaningful feedback etc.), and not just student outcomes, these must be intentionally designed with student enrolment numbers on the table at the design stage (Lowenthal et al., 2019; Sieber, 2005). After all, there is no one-size-fits-all course design that magically scales for class sizes from 10 to 110.

METHODOLOGY

The purpose of this study was to develop a national landscape of the decisions made by LIS programs regarding online course enrollment caps. This study, while targeting a large data set, remained focused on a specific population. Therefore, email emerged as an effective way to survey this group (Hunter et al., 2013), and was used to answer the following research questions: 1) What enrollment caps or faculty support exist for online graduate courses in your MLIS or Master of Education programs? 2) What rationale was used to determine these figures and support systems? A cross-reference of programs listed by the American Library Association (ALA) and the American Association of School Librarians (AASL) generated a list of 66 program director or coordinator contacts. Of the 66 institutions contacted, 38 housed ALA-accredited MLIS programs. The remainder, 32 institutions, housed Master of Education programs that lead to school library certification – a market that represents almost half of University of South Carolina iSchool's current enrollment.

An email template was developed and sent to the identified contacts. Aside from convenience and economy, this data collection method was used to procure a more dependable, quicker, and higher response rate (Shin, Johnson & Rao, 2012). A response rate of 100% was achieved due to the professional network of the U of SC iSchool faculty members involved in this study. Numeral responses to the research questions were analyzed quantitatively using descriptive statistical measures in order to develop a detailed picture of the relationship between graduate online course enrollment caps, university ranking, and institutional profile proximity to the University of South Carolina iSchool. Open-ended responses were analyzed qualitatively using inductive content analysis and open coding (Glaser, 1965; Onwuegbuzie & Leech, 2004). Findings are not generalizable or representative of all LIS programs nationwide. However, the analysis of both quantitative and qualitative data rendered a richer description of the information collected to aid in determination of transferability to one's own context (Creswell, 2008).

FINDINGS

Quantitative data.

The following quantitative data were collected in response to our research question 1 query about online course enrollment caps. Figure 1 below demonstrates that 62 out of 66 institutions cap their courses and provides the enrollment number where these courses are closed. Four institutions did not implement a course cap and instead dealt with larger enrollment numbers through faculty support systems. Of the 62 respondents below, 9% (n = 6) reported an enrollment cap of less than 20, 56% (n = 35) reported an enrollment cap of 20-25, 16% (n = 10) reported an enrollment cap of 26-30, 10% (n = 7) reported an enrollment cap of 31-35, 4% (n = 3) reported an enrollment cap of 36-40, and only one institution reported an enrollment cap above 41.

Figure 1

Number of Institutions that Cap Courses by Numerical Ranges

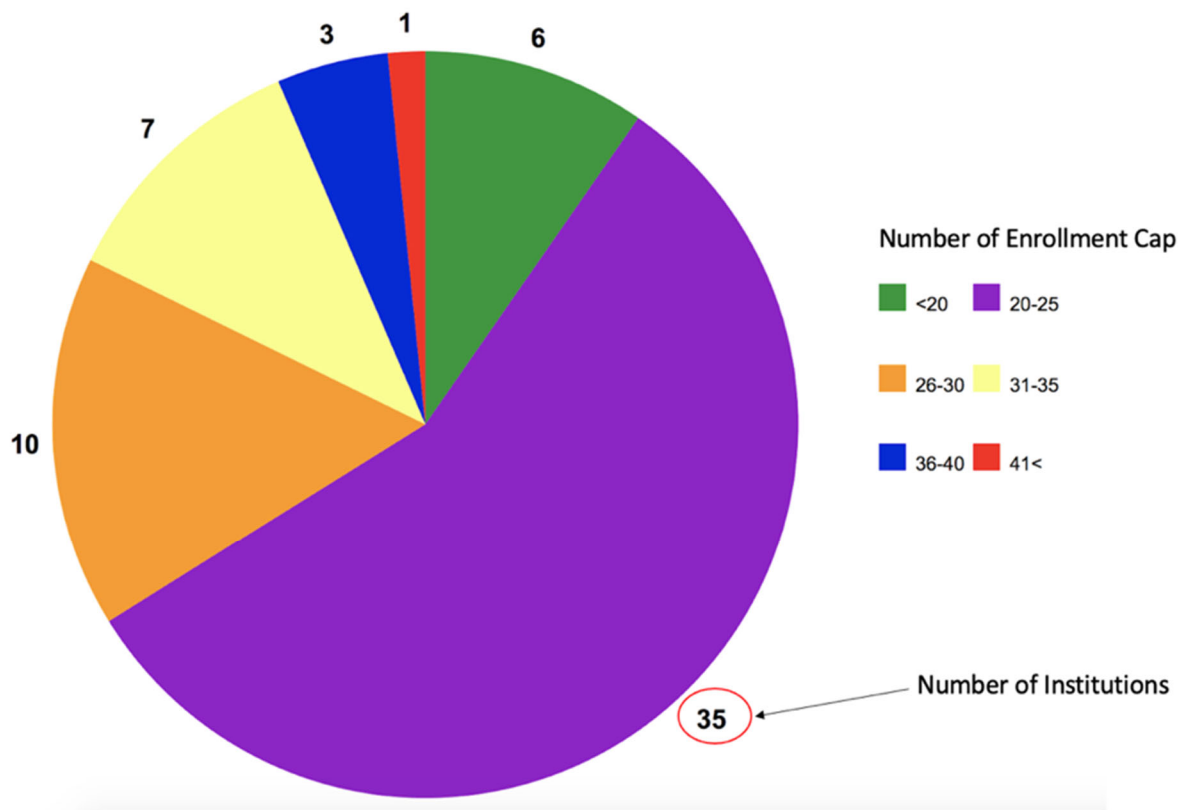
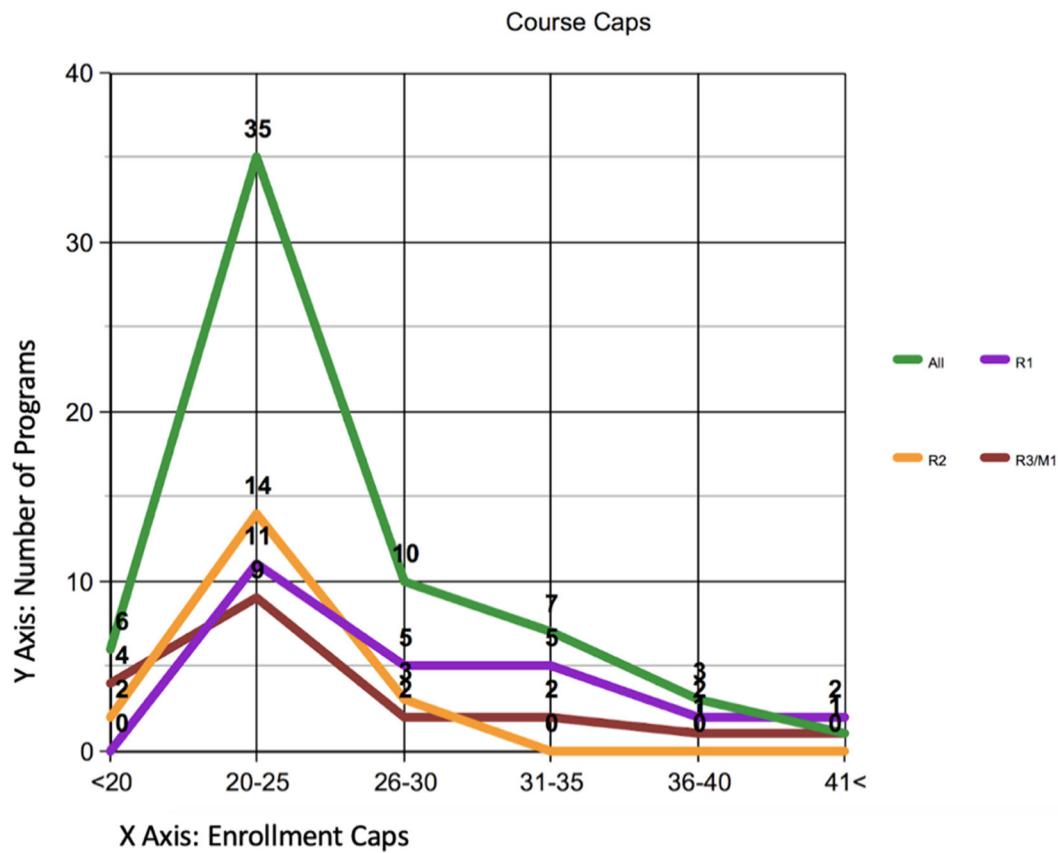


Figure 2 breaks course enrollment caps down by basic classification description according to the Carnegie Classification of Institutions of Higher Education (2018), to aid in uncovering patterns among peer institutions. Programs that participated in this study represent the following classifications: R1 Doctoral Universities – very high research activity, R2 Doctoral Universities – high research activity, D/PU (R3) Doctoral/ Professional Universities, and M1 Master’s Colleges and Universities – larger programs.

Figure 2
Course Enrollment Caps by Carnegie Ranking



Regardless of classification, the vast majority of programs (over 56%) capped enrollment for individual online courses at an average of 25 students. Less than 9% of programs allowed enrollment to exceed 35. This consistent pattern across classifications indicates a university's ranking or standing is not a factor when online course enrollment caps are determined.

Qualitative data.

The following themes were identified during analysis of participant responses to research question 1 about faculty support systems and research question 2 regarding rationale for determining enrollment cap figures and support systems. These themes reflect commonalities among respondents including dissatisfaction with the decision-making process, institutional support structures, and faculty teaching philosophy.

Theme 1: Dissatisfaction with the decision-making process. The first theme, dissatisfaction with the decision-making process, relates to the ways faculty function within a program's structure and existing online course enrollment caps while resenting or not

understanding the reasons behind that structure. Online courses have historically been found to add approximately twenty extra hours of workload to faculty responsibilities (Tomei, 2006). It is reasonable to expect faculty resentment of larger course enrollment caps; especially when the decision is made without or in spite of faculty input: “We do not enforce caps. I have very distinct thoughts on this that run contrary to my departmental leadership;” or outside of faculty awareness: “Undergrad courses are capped at 24 but sometimes we allow extra. Grad is supposed to be 15, but we sometimes have 20. I find it interesting that the caps are different. Wouldn’t undergrads also benefit from small class sizes, personal attention, and more opportunities for critical thinking?” In this instance, the faculty respondent does not know the reason why the caps are different but realizes that larger course sizes for undergraduates may reduce the benefits claimed for graduate education.

Theme 2: Institutional support structures. The second theme gleaned from the data, institutional support structures, refers to the ways programs with larger online enrollment caps support faculty teaching through additional personnel. Support structures included provision of teaching assistants per a set number of students, course graders, and in one case, doctoral students as co-instructors: “Our largest class sizes are our core classes, and these are the classes that have a PhD Teaching Assistant assigned to them.” Other programs combine approaches to real-world application of academic content with faculty support: “We’ve gone up to 40 but we always have TAs [teaching assistants]. That’s kind of unique to [institution redacted]. There are internal grants for hiring students for experiential learning and TA-ing is one of them, so we can usually hire TAs pretty easily. I still think 40 is too large, though.” The last part of this comment indicates the dark side of the support provided by teaching assistants and course graders, the reality that these resources still add to faculty workload. Teaching assistants and course graders must still be trained by faculty on grading approaches and assignment expectations, and institutional policies often require student concerns to first be addressed by the instructor of record.

Theme 3: Faculty teaching philosophy. The third theme, faculty teaching philosophy, reflects an increasing consensus “that high quality online learning involves guided and fruitful back and forth interactions between learners, instructors, and peers” (Veletsianos, 2020). Several respondents expressed how online course enrollment caps were based upon beliefs about what constituted a strong approach to online pedagogy: “Our masters courses are capped at 20. The rationale is that these are all project based and any more students would decrease the instructor’s ability to provide sufficient feedback.” Another explained: “Our course cap is 25. Our director stands by that strongly as it is more effective for meeting student needs at the graduate level.” Still others expressed how a lower course enrollment cap indicated a commitment to strong teaching as evaluated by accrediting bodies: “All classes are capped at 20. We were just reaccredited. When I was interviewed during our visit, they noted both the number of students in my classes and the number of internships each semester. This is how our caps came about. ALA-CoA [Committee on Accreditation] dinged us for this, hence the 20-person cap per course.”

DISCUSSION & CONCLUSION

Determining course caps is a deceptively difficult, nuanced, and politically fraught process, particularly when program decision-making procedures, infrastructure, and faculty teaching philosophies are not in alignment. Add to this critical, but ultimately inconsequential, “dings” and loose guidance from accrediting bodies, and the result is a lack of industry or disciplinary standards. Specifically, desired and pedagogically sound teaching and learning experiences are often in direct opposition to programs’ need to accommodate more students and offer core professional topics.

However, equally important to program solvency and efficiency is student and faculty satisfaction. Therefore, more attention, and eventually research, should be paid to pedagogy as it applies to MLIS courses, both face-to-face and online, to help determine how these competing needs can be more justly balanced. Great course content does not equate great pedagogy; how we teach courses is as important as what we teach in our courses. Courses within curricula should not be treated as one-size-fits-all that can all accommodate the same numbers of students. Some classes work well with 100 students in a big lecture setting; other courses need 20 students to facilitate engagement with the deep conversations that can lead to long-term attitude and policy changes.

In addition to providing food for thought, this brief study suggests more research is needed on this topic in the MLIS context, and that accrediting bodies need to take a definitive stance on what should be considered quality education, providing consistency to LIS curricula. While it is recognized that LIS graduate programs have their own personalities and strengths and are not expected to be in lockstep with non-comparable programs; programs should adopt industry standards that will enable foundational LIS education and values to be imparted across the profession. Course caps must be but one part of this larger discussion.

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