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**Optimizing Blended Learning at Both Ends: Towards a better fit for students, space and staff**

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**Abstract**

*The global coronavirus pandemic shuttered the doors of many educational institutions, and taught students that they could learn from anywhere — but may not want to. Many students want to get back in the classroom, and many others want to maintain a flexible approach to education. A changing relationship to school may be poised to further exacerbate one of education’s largest problems: scheduling. Before the pandemic, utilization of space and capital investments was often not maximized, due to the standardization of classroom sizes and the differing needs of students and instructors. Some classes may only use a small percentage of their classroom, while others build up a waiting list of students who may even need the class as a requirement to graduate. Entire scheduling and registration departments are created to deal with these problems, and the results are not ideal. What happens when students want even more flexibility, and even more variables come into the mix? Predictive, first come, first serve scheduling breaks down even further. New technologies are poised to be able to automate the scheduling problem and get more students and faculty more of what they need and want, even amongst changing requirements. By operating the registration process in a new way — gauging interest in scheduling options before they are finalized, rather than opening on a ‘first come, first serve’ basis to students — options can be compared, ranked and an automated ‘best fit’ schedule can be produced. This can empower a blended learning model, made to work for both the school and the students, accommodating niche interests without decreasing space utilization and thereby maximizing student choice of what they learn and how they learn it. New technologies can bridge the gap between in person and virtual learning, and the concerns of facility planners and their staff and students.*

**Keywords**

Optimization, Space Utilization, Facility Planning, Education, Scheduling, Blended Learning, Virtual Learning