

Transitioning from Lecture to Asynchronous Video Instruction – A Status Report

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At least fifteen years ago the issue of students bypassing in-person lectures for recordings or alternative resources altogether began to receive attention. The recent forced shift to virtual learning due to the SARS COVID 2019 pandemic has likely exacerbated trends of declining live attendance. Recent data indicate a majority of students prefer virtual content delivery to in-person.

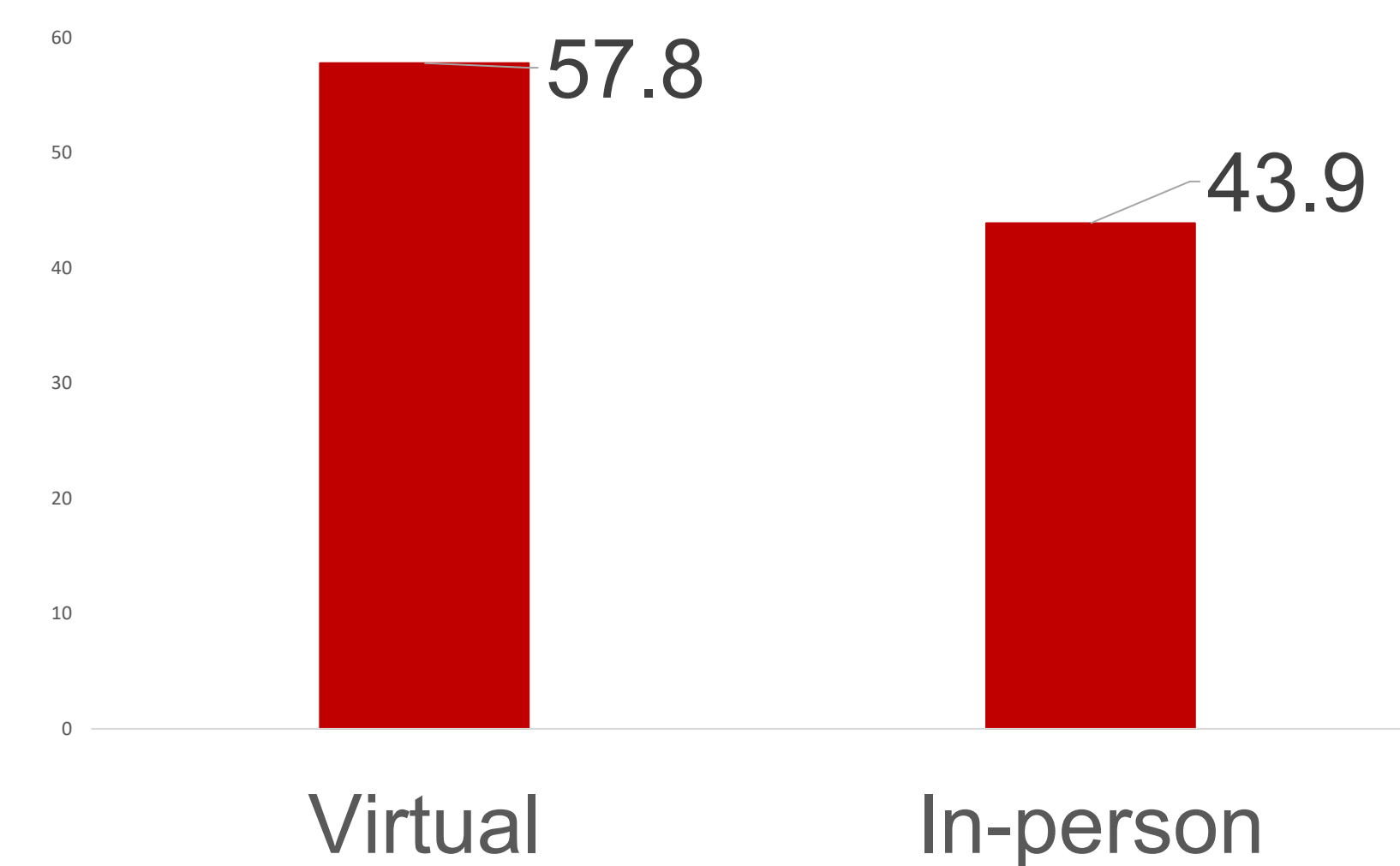


Figure 1: 2023 AAMC M2 questionnaire results for what percentage of students utilize virtual or in-person lecture often or most of the time.

Active-learning, problem-based-learning, and case-based-learning are all modalities faculty can use to bring students together so they can interact with each other and build some relationship with faculty. However, these approaches do not necessarily address the time-crunch many student report feeling, nor do they help with the school-life balance students report they struggle with (Figure 2).

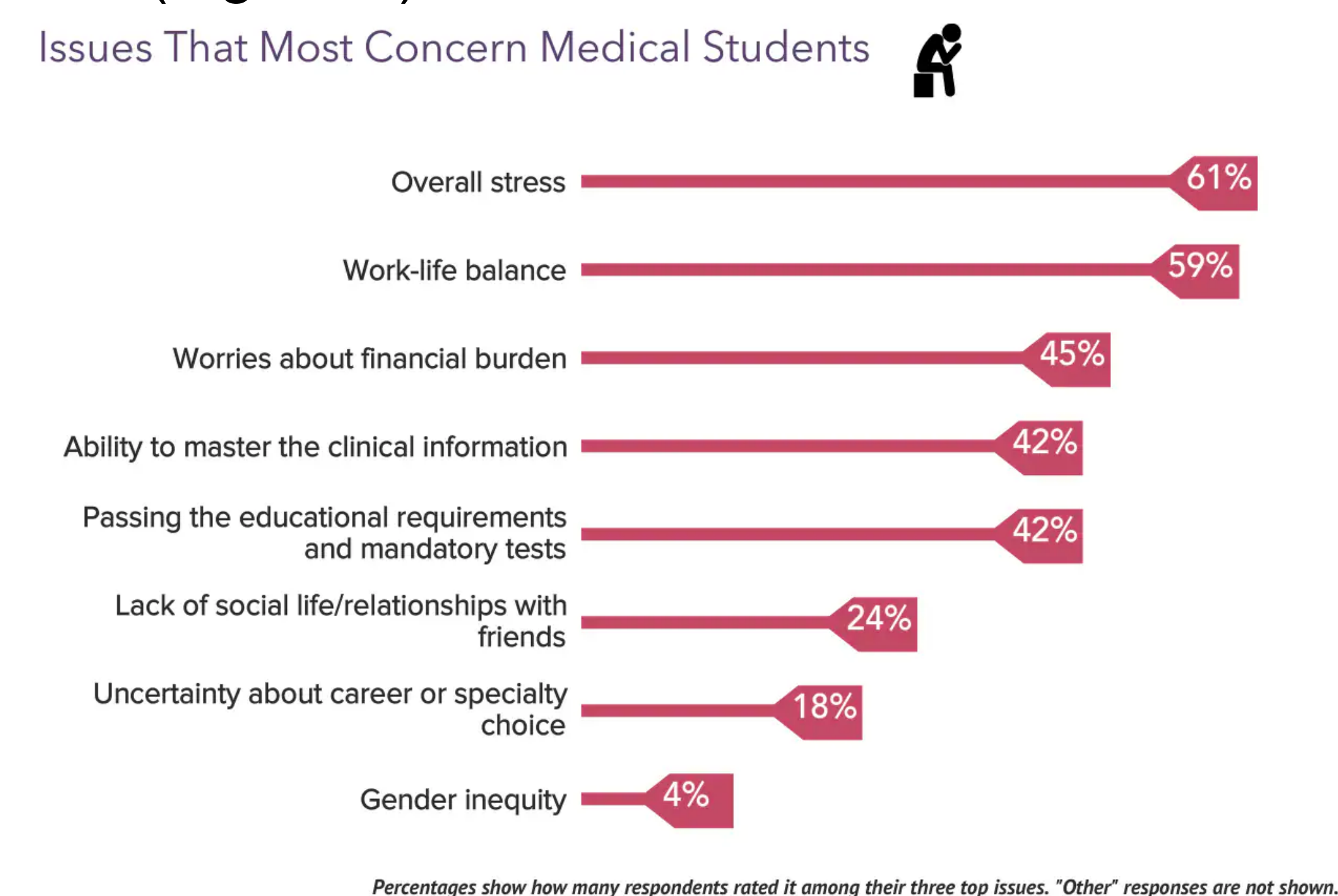
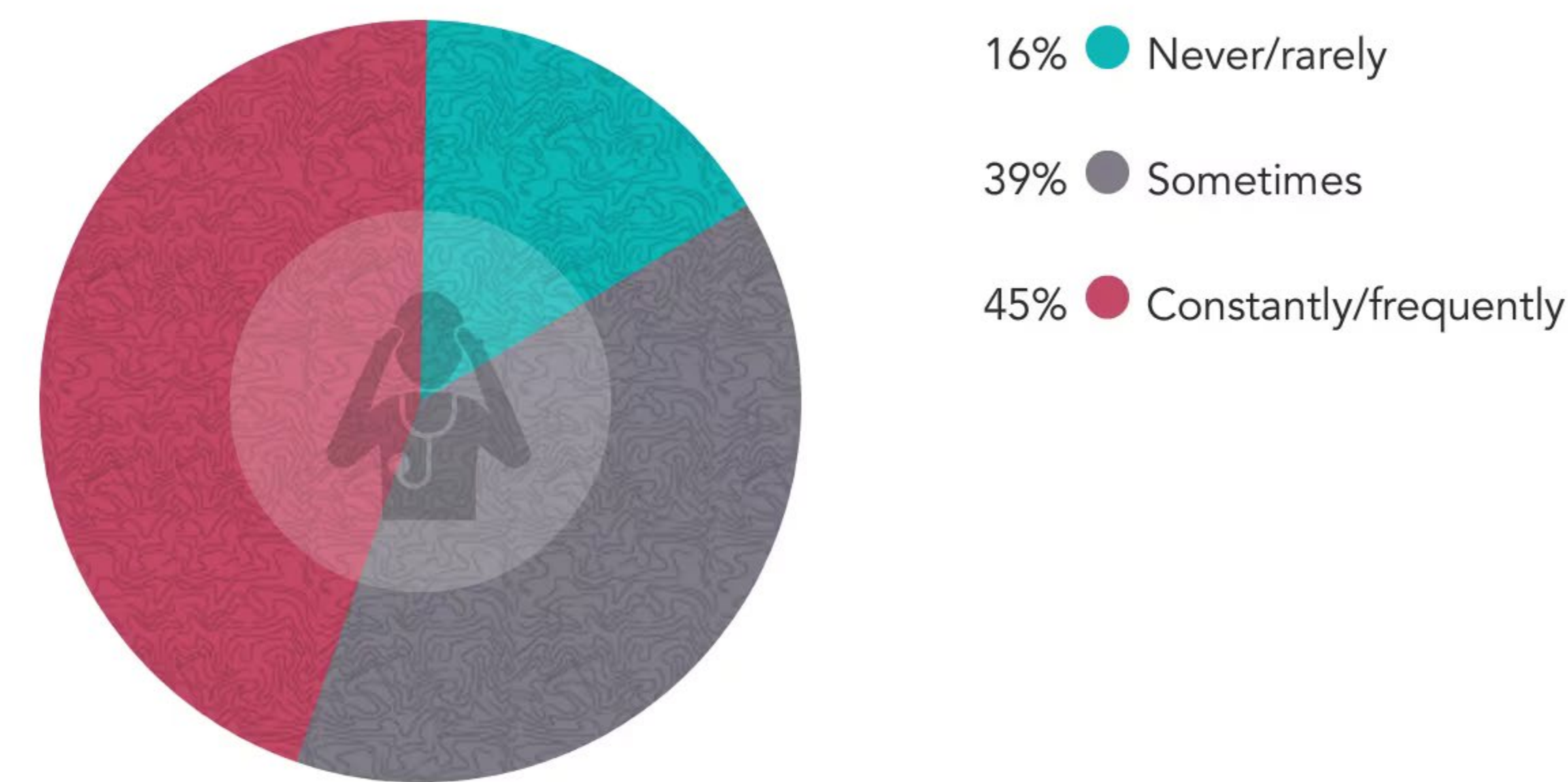


Figure 2 : Survey data collected by Medscape and compiled as part of Anxiety, Stress, and Burnout: Medscape Medical Student Lifestyle Report 2023.

Frequency of Feeling Burned Out During Medical School



Burned out included depression, loss of enthusiasm, feelings of cynicism, and low sense of personal accomplishment.

Figure 3: Survey data collected by Medscape and compiled as part of Anxiety, Stress, and Burnout: Medscape Medical Student Lifestyle Report 2023.

Given the recent work/life balance and burnout survey results (Figures 2 and 3), focusing on cognitive load and maximizing instructional efficiency may be more important than trying to tune content delivery to student learning style.

The biochemistry material at the University of South Carolina School of Medicine (Columbia) has been streamlined and moved to an asynchronous modality in an effort to reduce pre-clinical duty hours and promote a better work/life balance for students.

Offered as a single-semester course, the biochemistry curriculum at USC-SoM (Columbia) begins with DNA and fundamentals of genetics, before moving into proteins and then into metabolism. Three in-house block exams and a customized NBME final exam are used for assessment of student learning.

Course faculty reviewed their learning objectives and content before pre-recording a streamlined version using either Panopto or Camtasia.

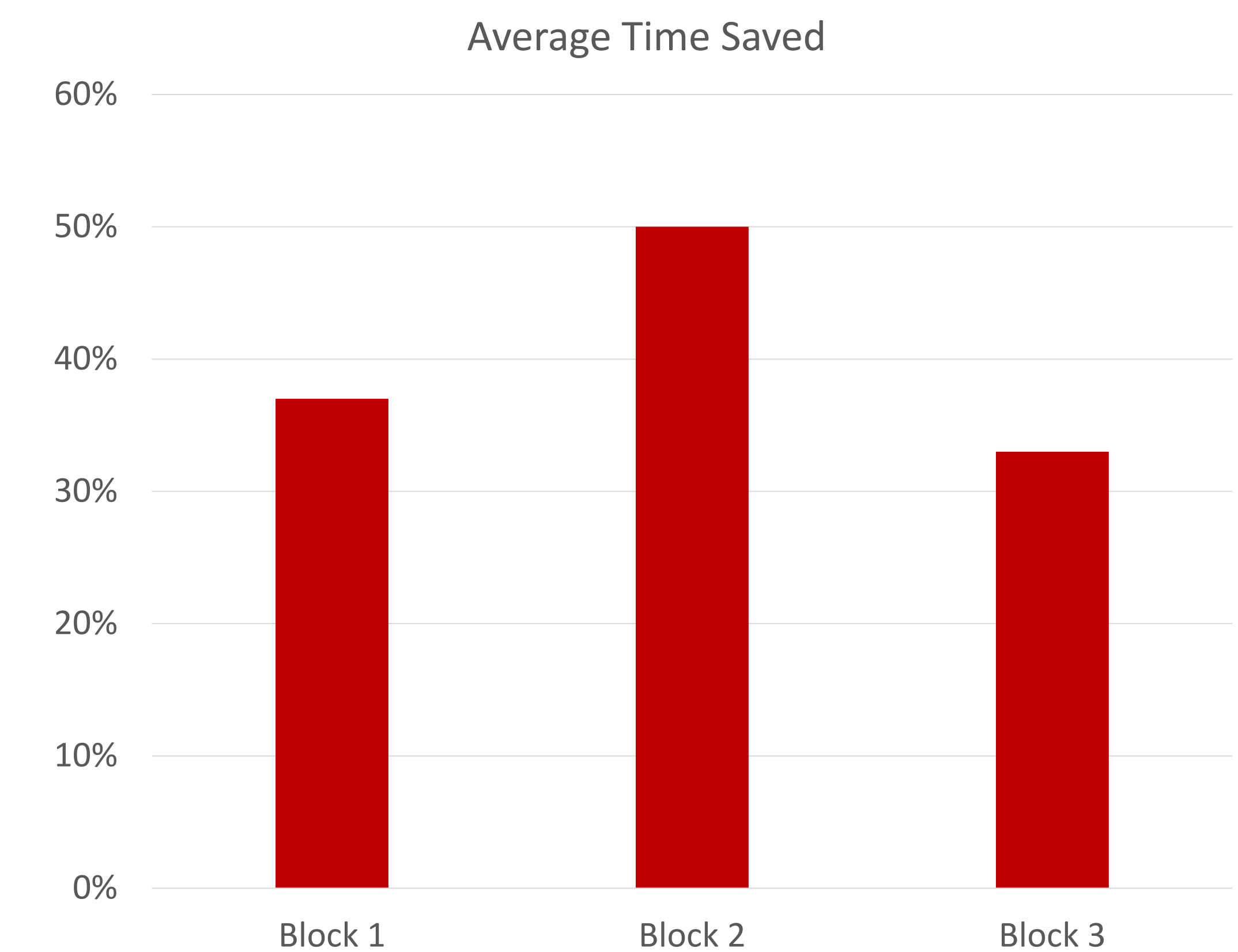


Figure 4: Average time saved, per block, by moving to pre-recorded content. Time savings could be as small as 20% in one week and as large as 60% in another week based on how many in-class activities were being removed and the instructor responsible for the content.

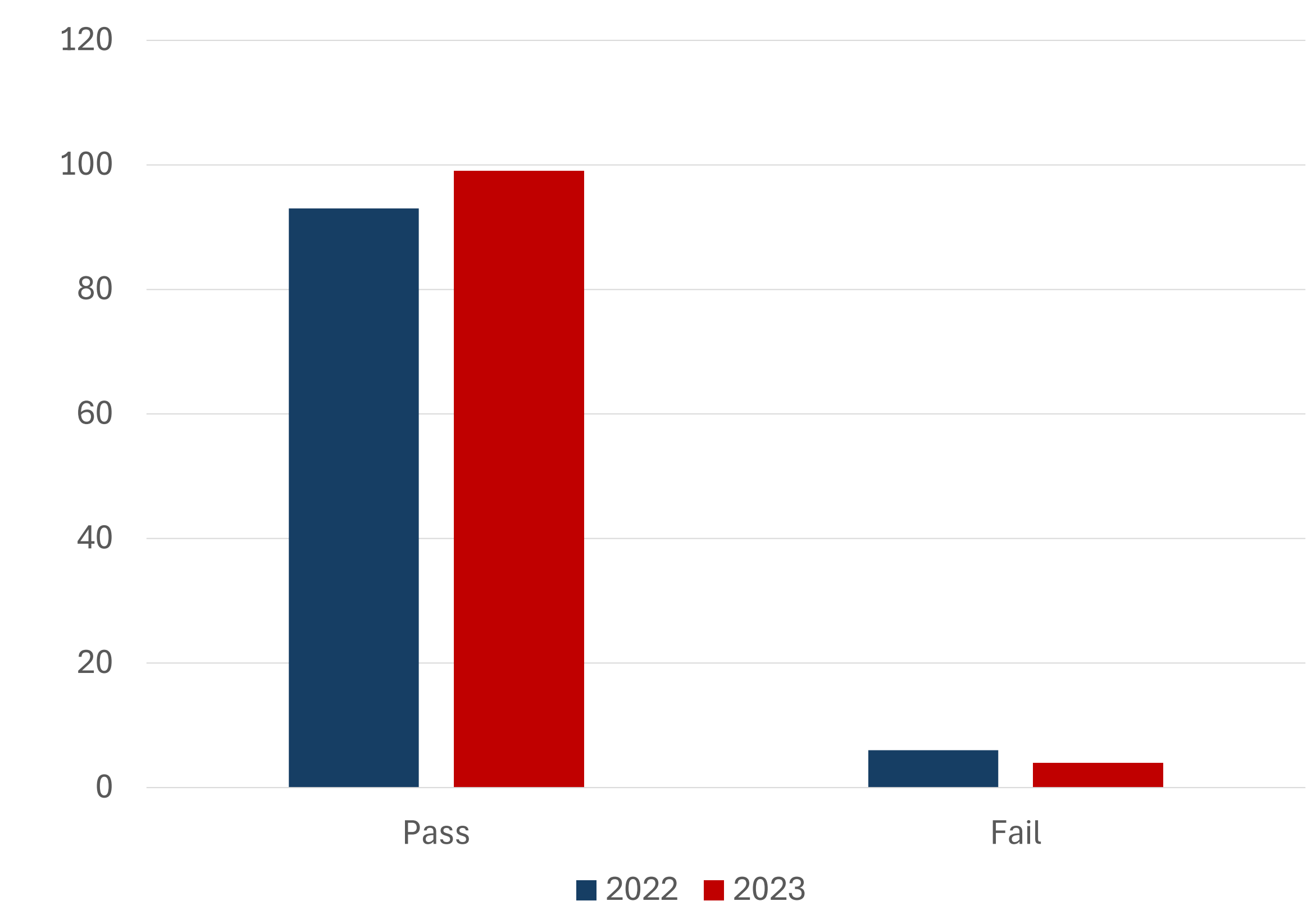


Figure 5: Comparison of number of students passing and failing in 2022 (traditional lecture) and 2023 (pre-recorded). NBME pass rate was comparable even though average NBME scores declined in 2023. This decline is likely due to our curriculum moving to Pass/Fail and students knowing that only a minimum final exam score was needed to pass the course.