

Is Providing a “Study Hall” the Key to Flipped Classroom Effectiveness?

We were excited to read the recent study by Graham et al¹ regarding the effectiveness of the flipped classroom (FC) in acquiring and retaining knowledge in an internal medicine residency program. This was a well-constructed and well-executed study that demonstrated a significant increase in knowledge acquisition and a sustained effect after several months for residents in a FC compared with a traditional didactic format. These findings contrast with prior systematic review results that failed to show a learning benefit via the FC method in graduate medical education.²

A striking difference between this study and those included in the systematic review was the provision of protected study time to do the prework embedded within the process. Thus, this study does not compare a true FC model to a traditional lecture format, but rather the FC model *plus* protected study time versus traditional lecture format. This is a critical distinction as prior studies have shown poor compliance with prework, with rates of compliance ranging from only 25% to 69%, even when the prework requires only watching a 10-minute video.^{3,4} Consistent with this is Graham and colleagues' finding that 66% of study participants thought this style of learning would not be feasible on an inpatient rotation, which many respondents (24%) attributed to a lack of protected study time.

On a positive note, this study provides a possible solution to making the FC model effective in graduate medical education, namely structured learning time for prework. Importantly, this makes it impossible to distinguish the effects of the FC from the effects of dedicated study time. As the authors appropriately state, “. . . our results do not delineate whether the impact of the flipped classroom derived from the prework or the active learning experience.” Future

studies and systematic reviews should distinguish this methodological difference.

We feel compelled to point out that, after residency, protected study time does not exist. Consequently, an important future question is whether providing protected study time across an entire curriculum would limit growth of residents' ability to self-regulate their learning.

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