What can go wrong while flipping a preclinical class? — Viewing the potential pitfalls of student-centered instruction method under pragmatic lens

Sir,

In the face of increasing attention paid toward student-centered instruction methods, it is not uncommon to witness many enthusiastic faculty eager to plunge in with the genuine expectation of push up the bars of educational standards. Flipped class or inverted classroom, being the most popular active learning methodologies, can be touted as a paradigm shift in the “didactic heavy” curricula, and using the leverage of computer technology, it has become easier to implement it even in resource-crunchy settings. But, there are handful of things which could go wrong while flipping the class, and this could result in rude shock to the faculty who have designed their classroom based on the results of proven literature. Taking cues from the literature and the errors which we had encountered through the process of developing flipped classroom, we would like to share four cardinal slippery zones.

First, it is difficult to ensure accountability of the students in terms of mastering preclass content. Particularly, when students are fresh to the medical college, they expect their teachers to tell everything they need to know. In a study by Cotta et al., a fraction of students who preferred traditional over flipped classroom had reported that watching preclass video lectures was burdensome in terms of time. On the other hand, students preferring flipped classroom had viewed the learning content multiple times. This difference manifested as a significant challenge during in-class activities particularly when the early adopters were reluctant in explaining the concepts to slower or unprepared peers. In their recent experiment, Graham et al. ensured that residents are provided with “committed” study time to do the prereading associated with flipped classroom. This model, i.e., flipped classroom plus protected study time resulted in palpable increase in knowledge acquisition and a sustained effect even after several months for residents compared with a traditional didactic format. This finding embarks a clear note that compliance with accomplishing the prework should be ascertained in a way or another, and this is crucial in determining the learning gain from flipped classroom model.

Second, it is pertinent to understand that it is not possible to flip every unit of the curriculum. We obtained favorable responses from the students while flipping the general histology classes particularly when the conceptual content was lucid. But, when we tried to extend the same methodology to gross anatomy, the results were bizarre because we were unable to convey the orientation of the corresponding viscera and related structures via preclass learning content. In addition, many a times, faculty fail to anticipate the time required to cover the objectives planned for the class. The in-class activities such as think-pair-share might take more time than actually planned, and this could result in compromising the intended learning objectives. Thus, the instructor who orchestrates the flipped class should pragmatically decide about “changing gears” as and when required depending on the contextual factors.

Third, designing optimal assessments for assessing the learning gains of flipped class often poses big challenge to instructors. In ideal sense, low stakes’ assessments in multiple formats should be conducted in flipped class to test immediate knowledge gain and retrieval tests after few months to assess the extent of knowledge retention. It is often said that the benefits of flipped classroom should be gauged over a period of time, and series of student-centered instruction methods tend to yield cumulative benefit. Unfortunately, high stakes’ summative assessments often does not take the sustainable learning gains into consideration. This could lead to “assessment burn out” particularly among slow learners who might lose the interest in the process. Furthermore, maintaining the rigor of postclass assessments in large group settings with limited number of instructors adds to the challenge.

Last but not the least, faculty in most Indian colleges tend to face twofold challenges while trying to flip the classroom. On one hand, establishing the optimal learning management system is a big issue. We need to choose the medium which could be easily accessible by all students at lower cost. In our experience, we felt that mobile sharing platforms like WhatsApp was able to reach all members of the classroom compared to e-learning platforms such as MOODLE. At the same time, the preclass learning content should not be
overburdening. The length, format, sequence, and utility of the content should be decided based on the topic and level of students.[8] Inadequate planning of appropriate in-class activities and failure in communicating what we expect from students can lead to loss of control over proceedings. In addition, we cannot expect a unanimous positive response from the students both in terms of expressed satisfaction and completion of assignments because not all students tend to navigate the “constructivist extended group space” at the same pace. Collaborative learning, which appears easy in papers, is difficult to achieve in large group settings where students tend to hitchhike the high performers.

To conclude, we need to accept the fact that flipped classes could fail, and majority of times, it is due to the failure in planning. Awareness regarding possible contingencies might help us to be mentally prepared with feasible solutions. It is imperative to understand that a mere transfer of learning model from paper to classroom might not yield fruitful gains unless the indigenous microdynamics is worked out with precision. The vantage point is finding the flippable moments and devising the optimal working model which comes only after successive improvisation attempts.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

References

1. Mehta NB, Hull AL, Young JB, Stoller JK. Just imagine: New paradigms for medical education. Acad Med 2013;88:1418-23.
2. Cotta KI, Shah S, Almgren MM, Macias-Moriarity LZ, Mody V. Effectiveness of flipped classroom instructional model in teaching pharmaceutical calculations. Curr Pharm Teach Learn 2016;8:646-53.
3. Graham KL, Cohen A, Reynolds EE, Huang GC. Effect of a flipped classroom on knowledge acquisition and retention in an internal medicine residency program. J Grad Med Educ 2019;11:92-7.
4. Cooper AZ, Hsieh G, Kiss JE, Huang GC. Flipping out: Does the flipped classroom learning model work for GME? J Grad Med Educ 2017;9:392-3.
5. Rajprasath R, Dinesh Kumar V, Gunasegaran JP. Flipped histology classes – Ascending bloom’s taxonomy to achieve effective learning: A pilot feasibility study. Int J Anat Res 2018;6:5494-500.
6. Karpicke JD, Roediger HL 3rd. The critical importance of retrieval for learning. Science 2008;319:966-8.
7. van Vliet EA, Winnips JC, Brouwer N. Flipped-class pedagogy enhances student metacognition and collaborative-learning strategies in higher education but effect does not persist. CBE Life Sci Educ 2015;14. pii: ar26.
8. Moraros J, Islam A, Yu S, Banow R, Schindelka B. Flipping for success: Evaluating the effectiveness of a novel teaching approach in a graduate level setting. BMC Med Educ 2015;15:27.

How to cite this article: Kumar VD, Rajprasath R, Murugan M. What can go wrong while flipping a preclinical class? – Viewing the potential pitfalls of student-centered instruction method under pragmatic lens. BLDE Univ J Health Sci 2019;4:108-9.

© 2020 BLDE University Journal of Health Sciences | Published by Wolters Kluwer - Medknow