Interactive intragroup tutorials: a need-based modification to enhance learning in physiology

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A TUTORIAL is a period of instruction given by a university or college tutor to an individual or a very small group. Essentially, it is a small class of a few students in which the tutor (a lecturer or other academic staff member) gives individual attention to every learner. The tutorial focuses on certain subject areas and generally proceeds with careful reading of selected primary texts and working through associated exercises. In Indian medical curricula, it is adopted as a significant method of teaching learning across all subjects. Despite obvious benefits, there are challenges attributable to traditional tutorials (TT) such as an increase in student number and decrease in the number of faculty members/specialty, as prescribed by regulatory bodies (2). This often leads to a tutorial being conducted in larger groups, more so, as a teacher-controlled activity with little or no active involvement of learners. Students get a limited opportunity to express their opinions and enhance communication skills. In this regard, some studies (1, 2) have also reported an incongruence between educational theory and practice in the traditional tutorial (TT) method. Since the tutorial is a regular activity in physiology at our university, it has necessitated certain beneficial yet less resource-intensive modifications that favor the active involvement of learners. The modification so proposed is in consonance with the potential advantages of the traditional method.

TTs. The routine practice for taking tutorials is to divide the batch of 150 first-phase Bachelor of Medicine Bachelor of Surgery (MBBS) students into groups of four (group A: 37 students, group B: 37 students, group C: 37 students, and group D: 39 students). The topic to be discussed for the tutorial is displayed on the notice board 2 days previously, and students are asked to be prepared with the same. On the day of the tutorial, this topic is discussed in small groups by a tutor assigned to the group. The discussion is semistructured, mostly focusing on gray areas about the topic, as identified by the tutor. In this type of tutorials, much of the participation can be observed from more motivated students or those that are well prepared. There are passive recipients and dominant responders.

Interactive intragroup tutorials. Keeping in view the challenges of tutorials being conducted in the traditional way, we made certain modifications (hence, interactive intragroup tutorials). The topic is selected for tutorials by a multivoting system by the students. The topic, along with its subtopics to be discussed, is displayed on notice boards 2 days previously. The allocation of groups is as shown in Fig. 1. On the day of the tutorial, one subtopic is allotted to each group (by the tutor), and students are asked to prepare a comprehensive writeup about that topic in 20 min. It is ensured that they follow all principles of group dynamics, i.e., the way in which the group functions and types of interactions that take place within the group (the principles of group dynamics are taught during postings in the communication skills laboratory). The tutor (only one) monitors the intragroup discussions during that

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**Fig. 1.** Division and subdivision of groups for the interactive intragroup tutorial in a batch of 150 students.
period. Later, the groups are asked to present their writeups in front of the large group. However; the presentation is to be done by any member other than the group leader. After the presentation, the other groups are asked to come up with missing/additional points for the topic. Those points are incorporated into the original presentation, provided that the tutor deems each point relevant. Accordingly, all four groups present their work. The tutor then sums up the entire discussion with pertinent points. The tutorial is concluded with group feedback about their performance (Fig. 2). The whole process is completed in one tutorial class within the time frame of 1 h. The feedback is semistructured and deals with the following aspects:

1. What were the strengths of the group?
2. What were the areas of improvement?
3. How the performance can be improved/suggestions?

Advantages of the modified method. The interactive intragroup tutorials, apart from suitably addressing the constraint of paucity of tutors, has other potential benefits, as stated below:

1. Small-group learning generally entails one facilitator for each group. In the modified tutorial, since the groups are already assigned to a subtopic, it can be managed by one or a maximum of two facilitators rather than a single facilitator for each group. Thus, small-group learning takes place with limited resources.
2. Interacting in a small group enables the student to practice communication and interpersonal skills, which are useful in their professional life later (1, 3).
3. Apart from the cognitive gains, students learn to perform in a team, experience collaborative learning, and perform competitively since they collectively organize the information to be presented in a large group.
4. A vast topic can be comprehensively covered in a limited time and can generate a ready reference guide for future studies.
5. Interactivity is better compared with the TT since it involves teamwork and ignites a competitive spirit (2).
6. The final summing up by the tutor is helpful in consolidating the entire topic and highlighting pertinent points.
7. Group feedback helps learners to realize their gaps and improve in further tutorial classes.

Suppositions. The modified method is under a controlled trial to analyze its efficacy in intended outcomes compared with the traditional method. Evidently, the modification has brought a marked difference in student participation as the average attendance in the TT and modified methods was 81% and 94%, respectively. Intergroup interactions and a competitive spirit are distinctly observed as students try to perform better in subsequent tutorials.

We are in the second academic year of incorporating interactive intragroup tutorials in the physiology curriculum. There have been no barriers so far, and the faculty is supportive. The method serves to be logistically straightforward to implement in a large class, making it more learner centric, particularly in basic sciences, where the tutorial serves a major teaching learning tool (4).

DISCLOSURES
No conflicts of interest, financial or otherwise, are declared by the author(s).

AUTHOR CONTRIBUTIONS
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