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Research Article

Interactive Large-group Newborn Health Learning Experiences among Students of Homeopathy

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I N F O

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A B S T R A C T

Background: Flipped classroom is an interactive teaching-learning method which has reported good acceptability in medical education. The effectiveness of this technique in teaching a non-mainstream subject is less explored.

Objective: This study was planned to assess the understanding among the homoeopathic students of a clinical subject taught via flipped class methodology.

Method: The flipped classroom approach was used for conducting online teaching sessions in paediatrics for the undergraduate students of homoeopathy. The students were provided with lecture material and learning aids before each of the two sessions on newborn health. Two separate online sessions were conducted in flipped class style. Students were asked to respond to a post-test questionnaire for knowledge assessment and a feedback questionnaire regarding learning satisfaction. A five-point Likert scale was used to assess the satisfaction experiences.

Results: A total of 64 responses were received after both classes where the mean (SD) knowledge score was 6.3 (1.2). Majority (79.6%) did not find the preparation for the lecture to be difficult and 63 (98.4%) agreed that this lecture style is helpful for learning. 53 (82.8%) participants agreed that it is useful for the preparation of examinations. Majority (90.6%) rated the satisfaction after the class as 4 or 5. Few topics were suggested for further learning by the students after the class.

Conclusion: Flipped classroom was used as a novel approach for teaching a clinical subject to the students of homoeopathy. High student satisfaction in terms of learning motivation and usefulness in preparation for examinations was recorded.

Keywords: Flipped Classroom, Self-Directed Learning, Competency-Based Medical Education, Satisfaction Scores, Student-Centered

Introduction

Medical education is experiencing a reform over the last decade. The new curriculum is based on competency-based medical education (CBME), which is a major shift from the teacher-centred approach to a learner-centred approach. With the advancements in technologies, it has been easier to reach the learners outside the classroom and to exchange knowledge.

Flipped classroom is one such teaching method where didactic material is provided to the learners before the class and the class time is utilised for interactive and student-centred learning through discussions, case-based learning, reflection etc.[1] Many definitions have been given to describe the flipped classroom. In simple terms, "what is done in class is done at home and what is done at home is done at class".[2] This interactive methodology has shown improved interaction, learning experience, and student satisfaction in many clinical subjects. However, the usage of an interactive new technology for teaching allied specialities of clinical allopathic medicine to students of homoeopathy has not been reported widely. We are presenting in this article the learning experience from an interactive class which was administered via the flipped class method and the students' understanding of the subject after the class.

Materials and Method

This was a cross-sectional study conducted with the third-year students of homoeopathy in a teaching homoeopathy institute. Neonatology is an allied subject in their curriculum of Obstetrics and Gynaecology during the third year. Usually, 2-4 sessions related to important topics in neonatology were held on a monthly basis. However, during the COVID pandemic and lockdown, with the closure of onsite learning, most of the educational activities were being conducted in an online mode. Therefore, the neonatology sessions were also scheduled as online mode.

Two sessions of neonatal health were taken at an interval of 10 days. The reading material and discussion questions were shared with them 7 days prior to classes via e-mail. The students were divided into three groups and each group was provided with one focused topic which they had to discuss during the class. The class was taken in pure online mode (Google Meet) over two 90 minutes sessions each. The students were informally involved in reading and discussion before the class through WhatsApp as an out-of-the-class environment.

During the class, each group discussed the topics allotted to them. The team-based discussions were supervised by a teacher. After the class, students were asked to fill a feedback form that was not to be considered a part of the formative assessment, hence was not mandatory. The form was divided into two parts, first part comprised of ten questions (open and closed) from the knowledge domain based on the class discussion and the second part was a feedback questionnaire on the session. Post-test questions were scored as one point for a correct answer and zero for an incorrect answer with a maximum of 10 points after each class. For questions with more than one answer, a total of one mark was divided into the number of expected responses. The feedback responses were graded as yes/ no/ maybe on the Likert scale (1-5; 1 - not satisfied, and 5 - very satisfied).

Data were analysed using Microsoft Excel 2013. Proportions were presented as n (%) and scores of knowledge domain were presented as mean (SD).

Permission to record the student response was taken from the college administration; an ethical waiver was granted as this was an educational exercise with a feedback process which is standard of teaching in the hospital. Verbal consent was obtained from the students.

Results

A total of 40 students were invited to attend the class. Thirty-seven students attended and filled the Google Form after the first class. Thirty-two students attended the second class and 27 filled the online form post-class, making a total of 64 responses.

Ten questions were asked from the knowledge domain in each class. The average (SD) score was 6.3 (1.3). Only 15 (23.4%) responses were scored 5 or less, 34 (53.1%) between 5-8 and 15 (23.4%) were scored 8 or more.

Almost half (60.9%) of the responses indicated that a similar class was attended previously. The preparation for the lecture was not found difficult in the majority (79.6%) of the responses and most (95.3%) of the participants accepted it to be useful for learning. Almost 61 (95.3%) responses indicated the wish to attend a similar class in future. Almost all (98.4%) responses indicated that this lecture style is helpful for learning motivation and understanding concepts, 53 (82.8%) indicated that this teaching style was useful for preparation for the final examinations and 38 (59.3%) agreed that this was useful for teamwork. (Figure 1).

Regarding the ways to improve the class style, some of them expressed that the content/ time allotted for preparation and for class, and the pace and style of the presentation should change while most of them did not want any change in the class style (Figure 2). Among the total responses, 46 (71.8%) indicated a wish to attend both flipped classes and traditional classes in future while 8 (12.5%) opted for flipped class style and 10 (15.6%) opted for traditional lectures. The satisfaction scores were rated 4 by 16 (25%) and 5 by 42 (65.6%) while only 6 (9.3%) of them rated 3 and no one rated below 3.

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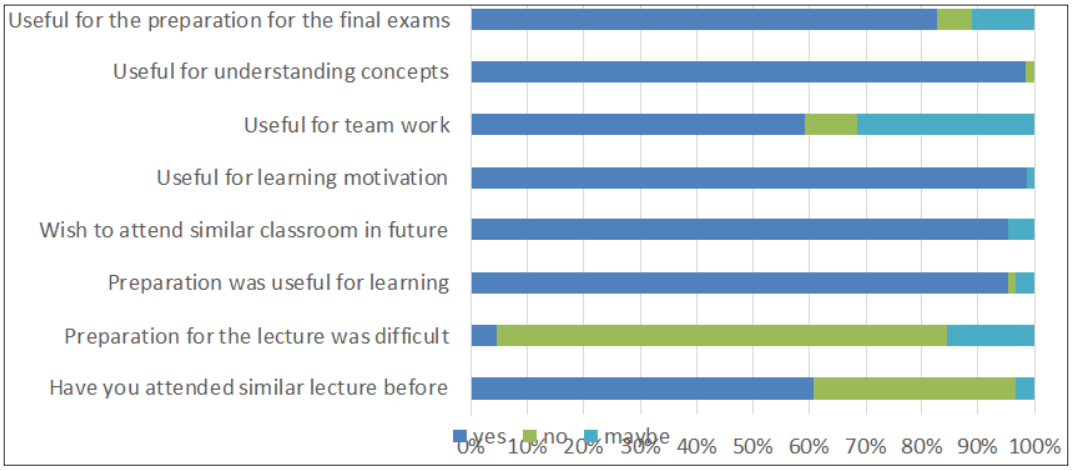

Figure 1.Subjective Assessment of Students about the Class Methodology

Source: Subjective assessment of students about usefulness of the style

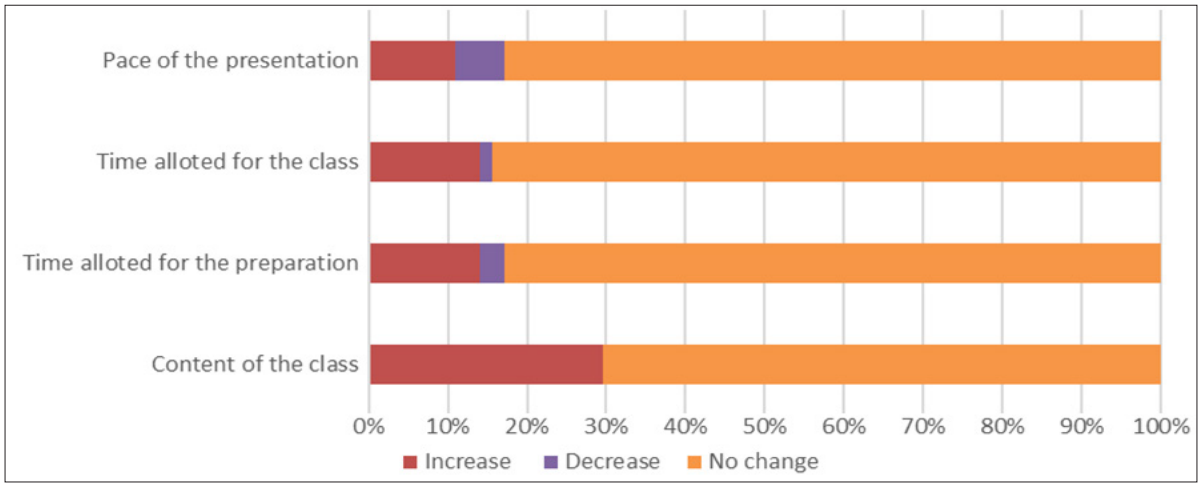

Figure 2.Suggestions by the Students for Improvement of the Class

Many students suggested further topics which they wanted to be discussed in future classes (Table 1).

Table 1.Suggestions by the Students regarding Further Topics that should be Taught

New Topics suggested by the Students for Learning
Homoeopathic care of the newborn
Bleeding disorders in the newborns
Breast engorgement in the postnatal period
Congenital disease of the newborns
Intrauterine foetal death
Lactose intolerance
Different ways of brain injury

Discussion

In this study, we utilised flipped classroom technique to teach a clinical subject to the undergraduate students of homoeopathy. Neonatology is not a primary topic for homoeopathic students and was taught as an additional class using an interactive teaching method and was liked by the majority.

Traditional classroom is the most commonly employed method for undergraduate teaching. It involves a passive transfer of knowledge from the teacher to the students.[3] Recently, there has been much emphasis on student-centric or self-directed learning. Flipped classroom methodology was first used in medical education in 2012.[4] It has been used in many clinical and paraclinical contexts and almost all studies have reported a positive student response to it.[3,5,6] Most of the students in our study found the class useful for learning and preparing for the future examination. Some studies have reported an increase in the interest of students in the given subjects.[7] The students in our study reported that this style of teaching was good for learning motivation, teamwork, and understanding concepts.

While some studies have reported an increase in student knowledge,[6,8,9] others have not shown any difference in knowledge acquisition despite positive feedback from the students.[7,10] We did not administer any pre-test as the subject was not taught regularly in their curriculum, and specialists were mostly invited for teaching the same. The majority of students scored well on the post-test suggesting

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that the knowledge acquisition was good in this class methodology. Some of the studies also reported positive teachers' perceptions of flipped classroom methodology.[11,12]

Most of the students reported that they would like to attend similar classes in future. The reason for the preference of this methodology is that the pre-study material can be accessed as many times as needed and students can read at their own pace; also active learning in the classroom promotes the understanding of subjects.[13] Few students, however, also reported that they would prefer the traditional class methodology in future. The reason for not preferring flipped classes can be the time taken for preparation of the class which can be tackled by optimising the pre-class reading material. However, flipped classroom style breaks the monotony and increases students' participation in learning. As the success of flipped classes is dependent on students' preparation, it is important for the facilitator to improve the understanding of the students about the class technique beforehand.[13]

Few students suggested new topics for learning which were not included in the class content. This suggested that the students were motivated for self-directed learning which spanned beyond the class topics.

The limitation of the study was that we did not administer a pre-test to evaluate knowledge acquisition. The other limitation was that handouts of teaching material were given as pre-class study material compared to other studies which employed recorded lectures (video/ audio). However, as during the pandemic, the lecture was also scheduled to be in an online mode, the authors decided against the use of the same medium for pre-class preparation. The reasons for shorter attendance in the second session were not recorded as this was not foreseen before the beginning of the class.

Conclusion

Flipped classroom is a novel approach to teach an allopathic subject to homoeopathy students. Students reported high satisfaction in terms of learning motivation and preparation for examinations and also found it useful for promoting teamwork in the students.

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