Student's perception and experience of a new knowledge-swap method of teaching and learning in medical education: An adaptation of a Swedish method

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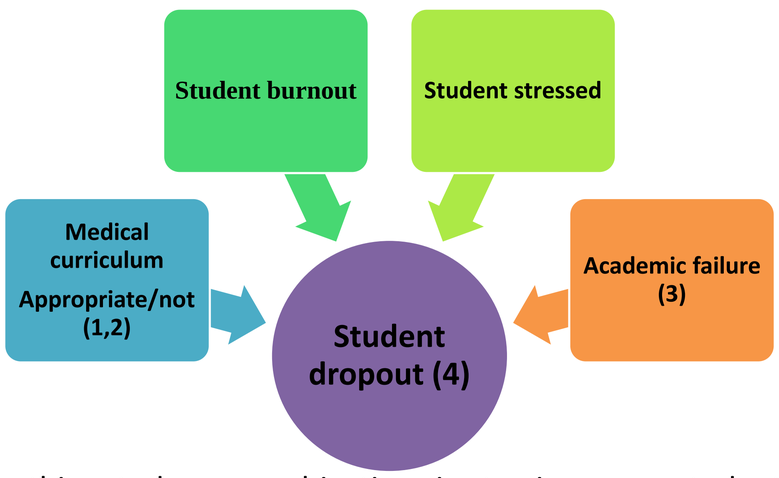
Aim

The aim of this study was to evaluate a new teaching method to increase teaching efficiency without increasing student workload in undergraduate (UG) medical curriculum.

BACKGROUND

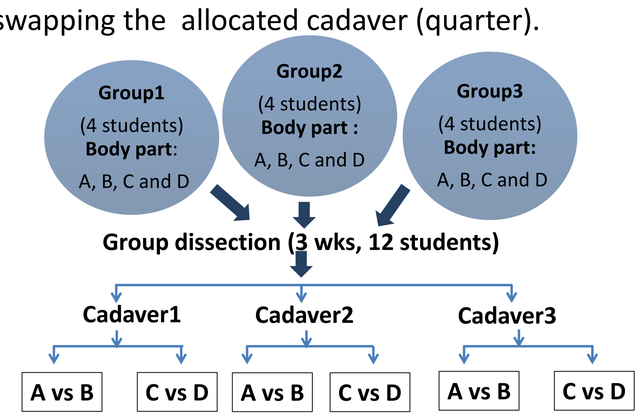
A vital factor in medical school is whether or not there is an appropriate curriculum to ensure student success (1, 2). When students struggle academically , the probability of drop out increases (3). Therefore, understanding of impact of curriculum design on academic failure is important to actively prevent dropout rate (4).



In this study, our objective is to increase student satisfaction by implementing new changes or restructuring the medical curriculum to achieve the highest level of student satisfaction to improve student retention.

Design of Knowledge-swap method

Knowledge-swap system allowed students to gain knowledge on the whole body instead of only the allocated quarter by a structured knowledge exchange session and also swapping the allocated cadaver (quarter).



CONCLUSIONS

- This innovative unique teaching approach increases the teaching efficiency by a student-centered active learning method without increasing the student workload to help long term student retention.
- This method is also useful to reduce staff working hours, thereby would reduce institutional costs.
- We hope, in the future, this method may be adopted for medical students as a useful teaching method across various institutes to increase teaching efficiency without increasing the workload.

RESULTS

A new knowledge-swap method of teaching and learning was partially adopted from a Swedish method which was successfully developed and implemented in a human cadaver based 3rd year MBChB dissection based course (ME33HA) over a 3 week period. At the end of the course data was collected by anonymous student survey from each student and coded and analysed to identify the key findings. From the student perspective, the knowledge-swap method was useful to increase students learning experience without increasing their workload. On the other hand, a PubMed based literature search revealed it as not very popular among the medical students.

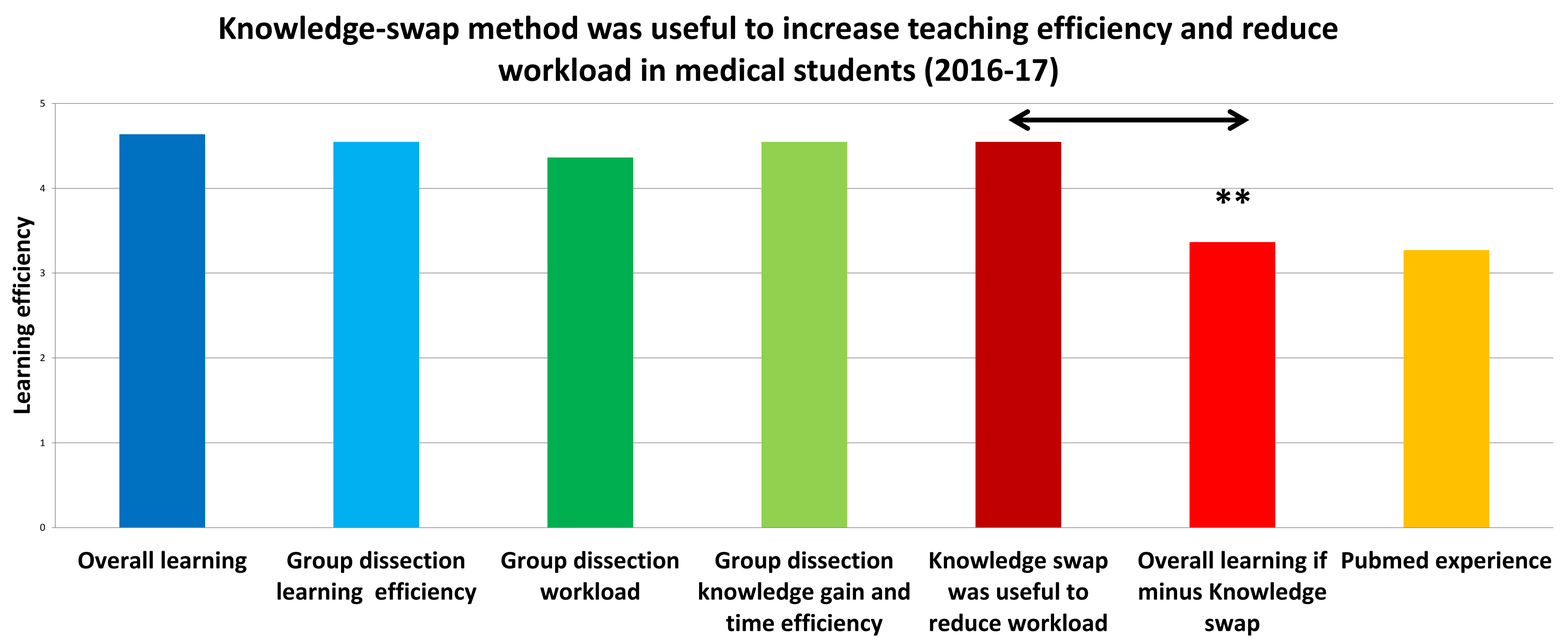


Figure1. Students perception and experience of adopted Swedish knowledge-swap method in 2016-17 session (ME33HA). The preliminary data (mean) collected from 2016-17 session (from 11 students out of 12) demonstrates efficient learning experience and knowledge gain without increasing student workload. Students t-test demonstrated significant difference between the knowledge-swap applied and not applied groups. ** p=<0.007, Learning efficiency scale (Y axis) 1=poor,2=Fair,3=good,4=very good,5=excellent. Statistical analysis was performed using GraphPad Prism software.

This method of teaching and learning was further improved in the 2017-18 session after reviewing the students suggestions from 2016-17 session. Students performed the knowledge-swap system more consistently from week1 to week3 with a short revision session with the tutor at the end of each day to check the knowledge retention.

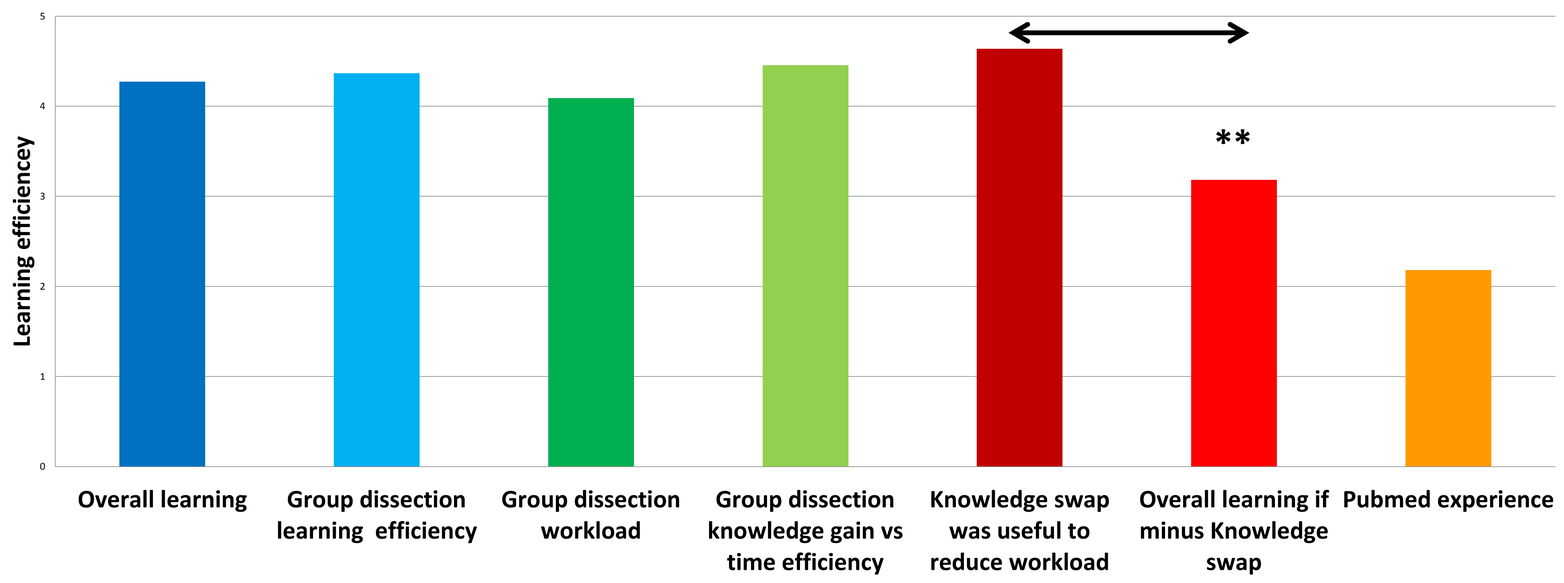


Figure2. Students perception and experience of adopted Swedish knowledge-swap method in 2017-18 session (ME33HA). The second sets of data (mean) collected from 2017-18 session (11 students out of 12) demonstrates replication of 2016-17 session data where students experienced efficient learning experience and knowledge gain without increasing student workload. Students t-test demonstrated significant different difference between the knowledge-swap applied and not applied groups. ** p=<0.007, Learning efficiency scale (Y axis) 1=poor,2=Fair,3=good,4=very good,5=excellent. Statistical analysis was performed using GraphPad Prism software.

To cross validate the data from the UG ME33HA course, this knowledge-swap system was also implemented in other postgraduate (PG) blended anatomy courses (AN5501/AN5502) which are designed for various health professionals. Students demonstrated a similar level of satisfaction rate regarding the knowledge-swap system.

ACKNOWLEDGEMENTS

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