

Task-Based Learning: Student's Perception Of Their Skill In Participating In Small Group Discussions

Sharifah Sulaiha S A¹, Nurjahan M I², Nagarajah Lee³

Introduction

Task-based learning (TBL) has been accepted as an effective tool in teaching and learning activities in most medical schools. Many studies have looked at competencies and learning outcomes essential for undergraduates. Among the essential competencies are interpersonal skills and the ability to engage in a group discussion which this study has focused on. The evidence supporting higher interpersonal skills is however limited because many relevant competencies are hard to measure and require long observational periods.

Objective

To determine students' self-perceived value of TBL in enhancing their interpersonal skills during the clinical phase.

Material and Methods

All students' (semesters 6-10) in the clinical school of International Medical University (IMU) were invited to participate in this cross-sectional study done in December 2007 utilising a self-administered questionnaire with a 5-point Likert scale. It assessed the students' perception on TBL sessions conducted during their clinical attachments in the various disciplines. Mean-scores, standard deviations, and confidence interval were used.

Results

Response rate was 62%. The results indicated that students were favorable in their opinion on TBL as a suitable forum for active communication and participation in group discussion. The results also show that both male and female students' have similar perception. As for the comparison according to semesters, this showed that students' maturity does not influence their perception as well.

Conclusion

In conclusion, the study has shown positive students' perception on the effect of TBL on acquired skills such

as interpersonal communication. Our findings are consistent with many earlier studies which show students' perception of the method of learning as important factor in the enhancement of their interpersonal skills which is fundamental to clinical practice. Further research is necessary; long-term and larger scale observational studies would undoubtedly be optimal to minimise response bias.

IeJSME 2009: 3 (1): 8-12

Keywords: Task-based learning, interpersonal skill, communication skill, medical school.

Introduction

In recent decades, there have been substantial changes in the design and delivery of medical education in congruent with the higher demand for better professional competencies of the medical graduates. Increasing number of medical schools today accept task-based learning (TBL) to be advocated as a better approach to teaching and learning¹.

Graduates from problem-based and task-based learning curriculums are expected to be more skilled in their interpersonal skills and better prepared for self-directed, life-long learning^{2,3}. These skills are expected based on the particular characteristics of task-based learning (TBL) ie: students collaborate in small groups, learning is centered on problems relevant to their domain of study and much more time is spent on self-directed learning. As demonstrated by Woodward CA and colleagues, supervisors characterise graduates from problem-based learning (PBL) schools as better communicators with patients⁴.

A study by Kalaian and Mullen reported that the crucial item in learning effectively will rely on the function of the effectiveness of the small groups⁵. However, most Malaysian students are familiar with traditional lecture and textbook generated learning as the core of education from elementary schools to many graduate level programmes. Thus, medical and health professionals who have used TBL have reported

¹Department of O&G, ²Department of Family Medicine, ³Department of Community Medicine and Behavioral Sciences, International Medical University Malaysia

symptoms of weak group process and interaction skills among the students^{5,6,7}.

Nevertheless, many small scale studies have suggested that graduates of TBL medical schools have better interpersonal competencies enabling better communication with patients and they also feel better prepared for professional practice than their counterparts from conventional schools⁸. Other studies have also found that these graduates are better self-directed learners⁹. On the other hand, there are studies that have failed to find such differences^{6,7}.

Currently, there is insufficient data and information on whether or not medical programmes utilising TBL strategies in Malaysia have successfully met their objectives. We would like to see if our undergraduates have developed improved interpersonal skills; with the emphasis on communication skills.

Consequently, this study was initiated to determine the self-perceived value of TBL in enhancing interpersonal skills; in particular looking at communication skills among the Malaysian undergraduates during the clinical phase.

Materials and Methods

Participants

All students in the clinical school of IMU (387 students from semester 6 – 10) were invited to participate in this cross-sectional study done in December 2007. Each semester of 6 months consist of multiple clinical postings with more than five TBL sessions in each posting. The response rate was 62% (240 students) as some were not able to participate as they were either posted to rural health centers or had left for their elective postings. The participants were from various level of seniority thus frequency of exposures to number of TBL is dissimilar. However, all have had adequate experience in conducting and participating in TBL as it is a continuation of PBL which they had been exposed to during their preclinical years.

This study is part of a larger cross sectional study looking at the eight IMU learning outcomes

(Application of basic sciences in the practice of profession, psychomotor Skills, communication skills, disease prevention and health promotion, family and community issues in health care, professionalism, ethics and personal development, self-directed life-long learning and information management, critical thinking & research). Data pertaining to communication skill and small group activity was extracted from this larger survey for analysis in this study.

Instrument and Procedure

Data were collected utilising a self-administered closed-ended (with a 5-point Likert scale – 0: not applicable, 1: definitely disagree, 2: mostly disagree, 3: mostly agree, 4: definitely agree) and open-ended questionnaire. It assessed the students' perception on the TBL sessions conducted during their clinical attachments in the various disciplines. The questionnaire was validated before it is distributed via a pilot study on a small group of faculty members and the student representative council members. The questionnaire was refined based on the results from the discussion with the participants of the focus group.

The questionnaire survey requires the students to rate themselves using the above 5-point scale on quality of their communication skill besides other relevant competencies. Four items in the close-ended section of the questionnaire were identified for this particular skill as shown below:

1. TBL helps to boost my confidence in communication (measures ability in communicating confidently)
2. I have difficulty with participating as the discussion is conducted in a fast manner (measures ability to follow the discussion)
3. I usually participate actively in my group's discussion during class (measures active personal participation in group discussion)
4. My group members actively participate in the discussion.(measures participation of other group members)

Students were also requested to provide open comments; either positive or negative aspects experienced during their TBL sessions. These were analysed individually.

Statistical Analysis

Analysis of the data was done using SPSS for Windows version 11.5. The mean-scores, standard deviations and confidence intervals were computed to compare students' perception on communication skills in TBL according to gender as well as seniority.

Results

The students were assessed from two perspectives of interpersonal skills: 1. communicating confidently (assessed using the first item in table 1) and 2. participating in group discussion (assessed using the other three items). The mean score for communicating confidently was 2.86. The scores for participating in group discussion were: 2.82 (for able to follow the discussion), 2.73 (for active personal participation in group discussion), and 2.66 (for participation of group members). These values indicate that students were favorable in their opinion on TBL as a forum for active communication.

Table 1 : Students' perception on communication skill and involvement in Task-based Learning (TBL) discussion groups. (Likert scale: 0-4)

TBL helps to boost my confidence in communication (measures ability in communicating confidently)	Mean - score 2.86
I have difficulty with participating as the discussion is conducted in a fast manner (measures ability to follow the discussion)	2.82
I usually participate actively in my group's discussion during class (measures active personal participation in group discussion)	2.73
My group members actively participate in the discussion (measures participation of other group members)	2.66

Comparison according to gender provides evidence that both male and female students have similar perception. Table 2 summarizes the mean score, standard deviation, and confidence interval comparing the male and female students' perception on communication skill in TBL session at the clinical school, IMU.

Table 2 : Mean score, standard deviation, and confidence interval in perception of different genders.

				Confidence Interval	
		Mean	SD	Lower	Upper
Ability to communicate with confidence	Male	2.73	0.62	2.54	2.92
	Female	2.87	0.68	2.75	3.00
Ability to follow discussion	Male	2.63	0.77	2.39	2.88
	Female	2.92	0.72	2.78	3.06
Active personal participation in discussion	Male	2.87	0.58	2.70	3.04
	Female	2.70	0.62	2.59	2.82
Active group participation in discussion	Male	2.72	0.62	2.53	2.90
	Female	2.62	0.66	2.50	2.74

Regarding the comparison between students from various semesters, the results showed that students' maturity does not influence their perception either. The confidence intervals for all the four aspects related to communication skills in TBL session showed that there are no significant differences in the mean scores for students from semester 6,7,8,9 and 10.

Apart from the closed-ended questions, students were also asked to provide their comments on open-ended questions. The open ended questions posed were: "Looking back on your experience with TBL sessions, are there any other positive or negative aspects you would like to highlight?"

(a) Positive?

(b) Negative?

The comments given were encouraging as there were only positive remarks. However, only a small number of students responded to this and 14 students gave remarks on interpersonal skills. The comments are shown in Table 3.

Table 3: Comments by students given in open-ended questions.

• TBL allows students to talk thus improve presentation and communication skill	(n = 3)
• There is opportunity for students to participate actively in discussion thus enhances communication skills	(n = 5)
• Develops self-confidence	(n = 2)
• Listening to colleague's presentation sometimes stimulated me to read further and discover my own deficiencies	(n = 1)
• Strengthens bonding among students and between students and lecturers	(n = 1)
• Increases my self-esteem	(n = 2)

Discussion

There are numerous differences in opinion on the effectiveness of TBL in improving students' clinical performance in medical schools. Most studies conducted looking into this theme was small, qualitative and self-rating. Despite the limitation in the manner of conduct and analysis of such studies, Schmidt et al carried out a study comparing these competencies acquired by graduates from PBL schools versus conventional medical schools and found some difference with better results from PBL schools^{9, 10}. Moreover, a recent systematic review on the effect of this type of teaching approach has shown good results in majority of the competencies for undergraduates especially in the social and cognitive dimensions¹¹.

An increasing number of medical schools worldwide are using TBL as part of their delivery tools. Malaysia has begun to adapt to the change in medical curriculum as other developed countries have. By and large there has not been much work done to analyse its

effectiveness. It is important to find out if TBL helps our students develop competencies required in their professional life e.g. application of basic sciences, self-directed learning skill, interpersonal skill, collaborating skill etc. Anecdotal reports state that Malaysian doctors have difficulty interacting with others especially their patients and colleagues. And this may impact on public trust on the medical profession. In this study, we focused on an essential area in the practice of medicine i.e. interpersonal skills.

Our results show that although there was no significant improvement reported, the students in the various cohorts reported sustained confidence in their interpersonal and communication skills. Thus, TBL is an acceptable teaching and learning tool for improving the communication skills among clinical students as proven by their sustained confidence and active participation in group discussion in all the cohorts we studied. This is consistent with other studies which showed that learning was more of a function of the effectiveness of small group process⁵. This is consistent with findings in few recent studies which agreed with the advantages TBL provide students; especially in the area of developing communication skills^{9,13}.

However, from our analysis we found only moderate rather than strong correlation on TBL's effectiveness to this skill. This is possibly influenced by weaknesses that may be present as described by Hitchcock and Anderson. They identified five small group dysfunctions⁷.

- Apathy or lack of meaningful interaction
- Limited or focused discussion that ignores other aspects of an issue
- Dysfunctional group member who does not participate or perform work equally with others in the group
- Scapegoat student, who becomes ignored by other group members
- Domineering student who disrupts or prevents others to learn through the process.

There are some concerns raised on whether the students who come from conventional medical schools (the traditional lecture or textbook generated learning) as their core of education from secondary school would be able to cope with the changes like self-directed learning programmes¹³. In this study, we have noted that different levels of maturity or gender do not affect students' perception on TBL's effectiveness in enhancing communication skills.

The open comments given in the study; although few in number seem to suggest that TBL provides a conducive learning environment. Previous studies have shown that TBL provides an environment where the individual student is able to receive feedback from other students and the facilitator; thus this allows them to receive guidance and support from peers as well as their teachers^{14, 15}.

Rigorous research-based evidence of the effectiveness of TBL is limited because many relevant competencies such as the skill to work in a team are hard to measure and require extended observation periods^{8,14,15}.

This study has several limitations. Firstly this survey utilized self-reported data; thus students may not have gauged and reported their ability appropriately. Secondly, our study was a cross-sectional survey; more accurate data maybe be obtained if we had undertaken a longitudinal study of one cohort over the various semesters. We would like to suggest that other than a longitudinal survey, more accurate data can be obtained by utilising focused group survey methodology.

Conclusion

In conclusion, this study has shown that students that participate in TBL are able to sustain their confidence in their interpersonal and communication skills. However, future research should be carried out to look at its effect on all dimensions of clinical competencies despite the limitation of qualitative studies. Longitudinal and larger scale observational studies

would be optimal to minimise response bias. Thus, further research is required before TBL becomes widely accepted as the most appropriate tool for medical curriculum delivery in Malaysia.

REFERENCES

1. Al-Dabbagh SA, Al-Taei WG. Evaluation of a task-based community oriented teaching model in family medicine for undergraduate medical students in Iraq. *BMC Med Educ*. 2005 Aug 22;5:31.
2. Santos Gomez L, Kalishman S, Rezler AG et al. Residency performance of graduates from a problem-based and conventional curriculum, *Med Educ* 1990; 24(4):366-75
3. Peng WW. Self-directed learning: a matched control trial. *Teach Learn Med* 1989; 1:78-81.
4. Woodward CA, McAuley RG. Can the academic background of medical graduates be detected during internship? *CMAJ* 1983; 129:567-9.
5. Kalain HA, Mullan PB. Exploratory factor analysis of students' ratings of a problem-based learning curriculum. *Acad Med*. 1996;71(4):390-2
6. Tipping J, Freeman RF, Rachlis AR. Using faculty and student perceptions of group dynamics to develop recommendations for PBL. *Acad Med*. 1995;70(11): 1050-2.
7. Hitchcock MA, Anderson AS. Dealing with dysfunctional tutorial groups. *Teaching and Learning in Medicine*. 1997;9(1):19-24.
8. Mennin SP, Kalishman S, Friedman M, Pathak D, Snyder J. A survey of graduates in practice from the University of New Mexico's conventional and community- oriented, problem-based tracks. *Acad Med* 1996;71(10):1079-89.
9. Schmidt HG, Vermeulen L, van der Molen HT. Longterm effects of problem-based learning: a comparison of competencies acquired by graduates of a problem-based and a conventional medical school. *Med Educ*. 2006;40(6):562-567.
10. Henk GS, Lyanda V, van der Molen HT. Long-term effects of problem-based learning: a comparison of competencies acquired by graduates of a problem-based and a conventional medical school. *Medical Education* 2006; 40: 562-567.
11. Schmidt HG, Dauphinee WD, Patel VL. Comparing the effects of problem-based and conventional curricula in an international sample. *J Med Educ* 1987;62(4):305-15.
12. Koh GCH, Khoo HE, Wong ML. The effects of problem-based learning during medical school on physician competency: a systematic review. *CMAJ* 2008;178(1):34-41
13. Ozkan H, Dergimenci B, Musal B et al. Task-Based Learning Programme for Clinical Years of Medical Education. *Education for Health*, Vol. 19, No. 1, March 2006, 32 - 42.
14. Peterson M, Ed D. Skills to enhance Problem-based Learning. *Med Educ online* 1997;2:3
15. Albanese MA, Mitchell S. Problem-based learning: a review of literature on its outcomes and implementation issues. *Acad Med* 1993;68(1):52-81.