

Problem Based Learning in Dentistry – “The Taif Model” A Structured Editorial

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Introduction

Problem based learning were conceived as an idea in health sciences training in the McMaster University in 1969 [1] and specifically introduced in dentistry training in Malmo, Sweden in 1990 [2].

Currently the PBL is being used by almost 50% of the US and Canadian schools in various levels of curriculum penetration. Some universities like Maastricht adopted a pure PBL pedagogy with no elements of lectures. Originators McMaster also adopted method widely over the years but with a limited number of key lectures by senior professors which held the scenarios of various domains together, to ease understanding. Ideal educational ambience was noted in the Harvard medical school which implemented what they termed as a hybrid PBL curriculum.

A classical systematic review by Bassir SH [3] is a must for any academician who wants to explore the implementation of this Problem based learning methodology.

Ali K Tredwin C., *et al.* [4] advocate the early exposure to clinics as early as the first year of dentistry, ostensibly in the role of clerks to final year students to understand the dental clinic ambience. The acquisition of communication skills and inculcate in them the shine of professionalism, PBL did some ground breaking work.

Silence and the PBL process

The study by Jun Jin [5] revealed that students' silence can be construed as a positive and constructive means of dynamic contribution and learning contributing to the success of an ongoing PBL process. Silence gives avenue to reflection and also proactive listening skills are honed.

Several dental and medical schools now have added problem-based courses to help integrate the basic sciences with the clinical science. The utility of the PBL problem-based learning approach in the medical and dental school ecology has been analyzed and given qualified thumbs up based on these studies [6,7].

Discussion

The Taif model of the PBL.

In Taif we follow the following model. There is first of all the hybrid system in which we follow the didactic lecture based approach as well as selected learning objectives are given in a student centered PBL approach. The class is divided into groups of 10 students each. They are given sessions, one in which a scenario /problem is introduced to the students. They have two hours to discuss amongst themselves. In a process supervisory role a staff is appointed as Facilitator. He facilitates the process of discussion without giving the answers.

From amongst the students three volunteers are chosen. The Leader, the scribe and the time keeper. The leader takes charge of both the first and second session and he also controls the flow of the conversation and prevents it from descending into chaos. The scribe writes down the points on the white board as they are being discussed and the time keeper keeps a watch that all the participants talk for approximately similar time intervals.

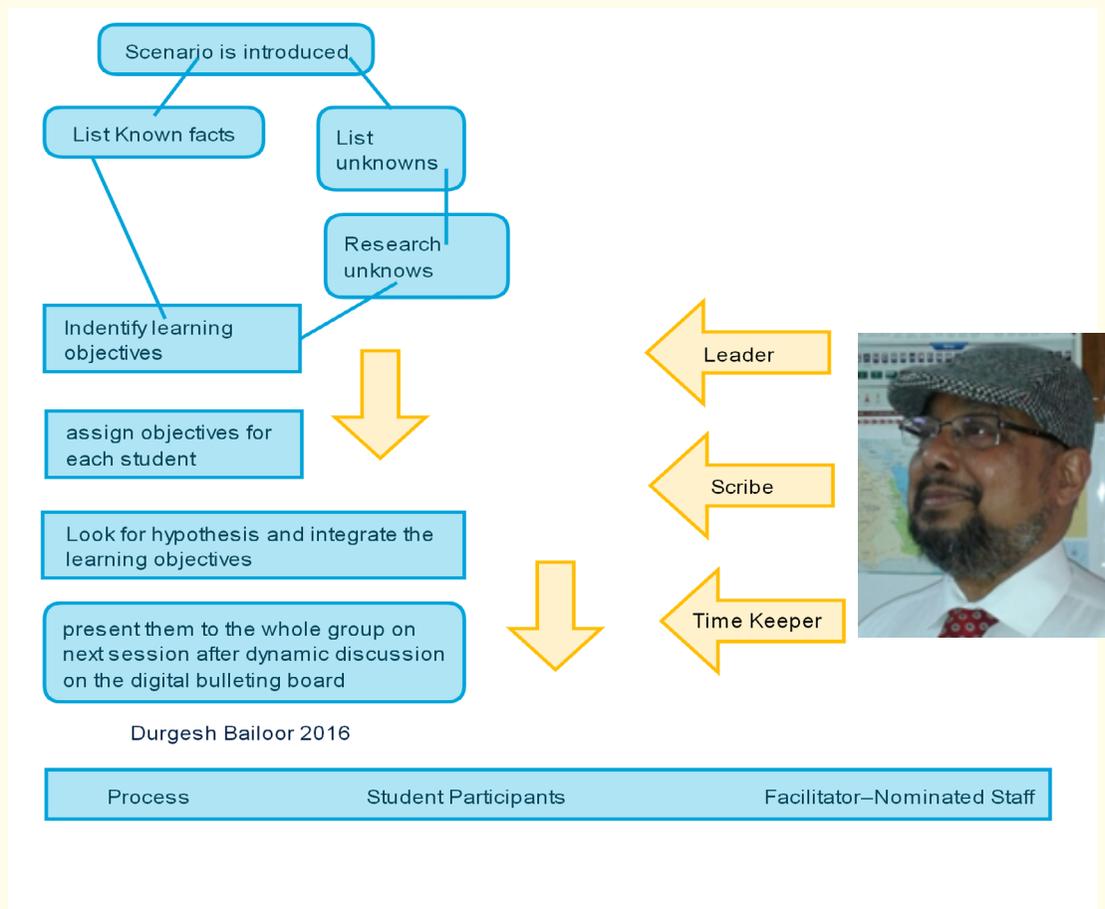


Figure 1: The process, the student participants and the staff participants are depicted and the process outlined in brief. The detailed description is referred to in the text. © Durgesh Bailoor2016.

Facilitator watches the students for their behavior, dynamic interaction and their critical skills of reasoning as they debate with each other. He normally give 40% of the marks in two sessions. In our dental school, we typically have first session on Sunday and second session on Thursday. Four days the students take part in the computer bulletin board in which postings of different learning objectives and their discussions are recorded.

On Thursday, all the students present their research in form of white papers or power points and all the students again have a dynamic discussion environment in which they satisfy each other with the answers. The leader summarized the whole issue at stake and then, a written MCQ test which covers the learning objectives is administered to the participating students. This test has 30% marks. The posting of the bulletin board termed as the “CLASS ROOM” and this is supervised and followed by another staff member termed as Discussion

Board Evaluator or DBE, he gives a total grade out of 30%. All these marks add up to a 100%. This we term inTAIF as the tri-partite evaluation of the PBL process.

All the staff of the school of dentistry in a meeting at the beginning of the term decide which of the objectives of their courses will be covered by the PBL-ILA [problem based learning and Integrated learning activity].

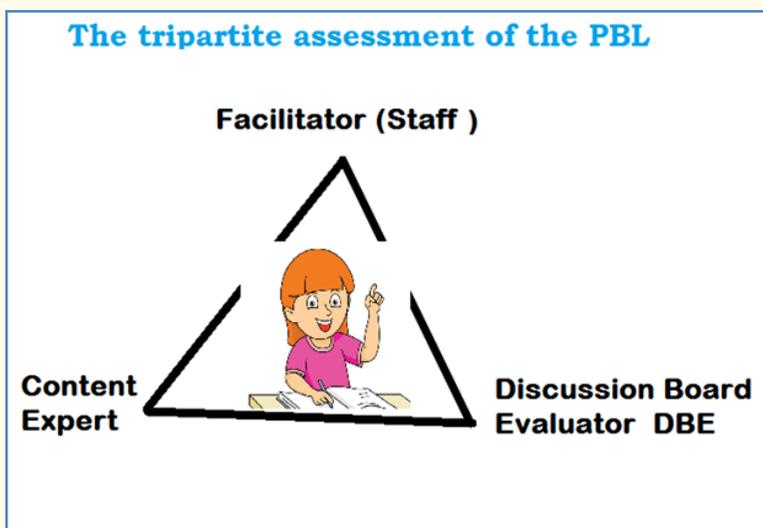


Figure 2: Three independent staff, the Facilitator [the session one and two], the content expert [design of the scenario and creating quiz for session two], The discussion board evaluator or DBE who gives marks for digital bulleting board assessment by monitoring the postings on it.

This staff then formulates a scenario which will lead the students into mental voyage of searching, thinking and analyses. This staff is termed as the content expert and he formulates the scenario in his area of expertise.

This scenario is then submitted to ILA committee which meets every week [Monday afternoon] and all the scenarios received are discussed, edited and formally accepted.

Each year staff is designated to supervise the computer bulletin board called as the Class Room in which students of a group have dynamic discussion of their objectives in virtual environment. This staff is termed as the Discussion Board Evaluators (DBE) and they are empowered to give 30 marks. Out of the total of 100 for each scenario.

The Facilitator is any staff member of the faculty who is chosen from the list of staff. Particular care is taken the this staff is not an expert in the scenario that is given, so that he only take s care of the PBL process and does not inadvertently teach! In fact, staff are told to not to do any formal teaching or lecturing in the PBL /ILA session [40 marks, 20 for each session].

Prior to implementation of this PBL system all the staff undergo extensive training involving at least 3 workshops of this concept and the study of various forms of evaluation that they will be practicing. Similarly, all the new batches of students as they come into the faculty undergo a week’s orientation in which they are inducted into the process of PBL, Reference searching and then formulation of ideas through discussion, which form the back bone of the PBL/ILA activity.

The PBL Process: The PBL process is made of three major activity components.

Session One {Sunday} ...Class Room [Bulletin Board for discussion].....Session two {Thursday}.

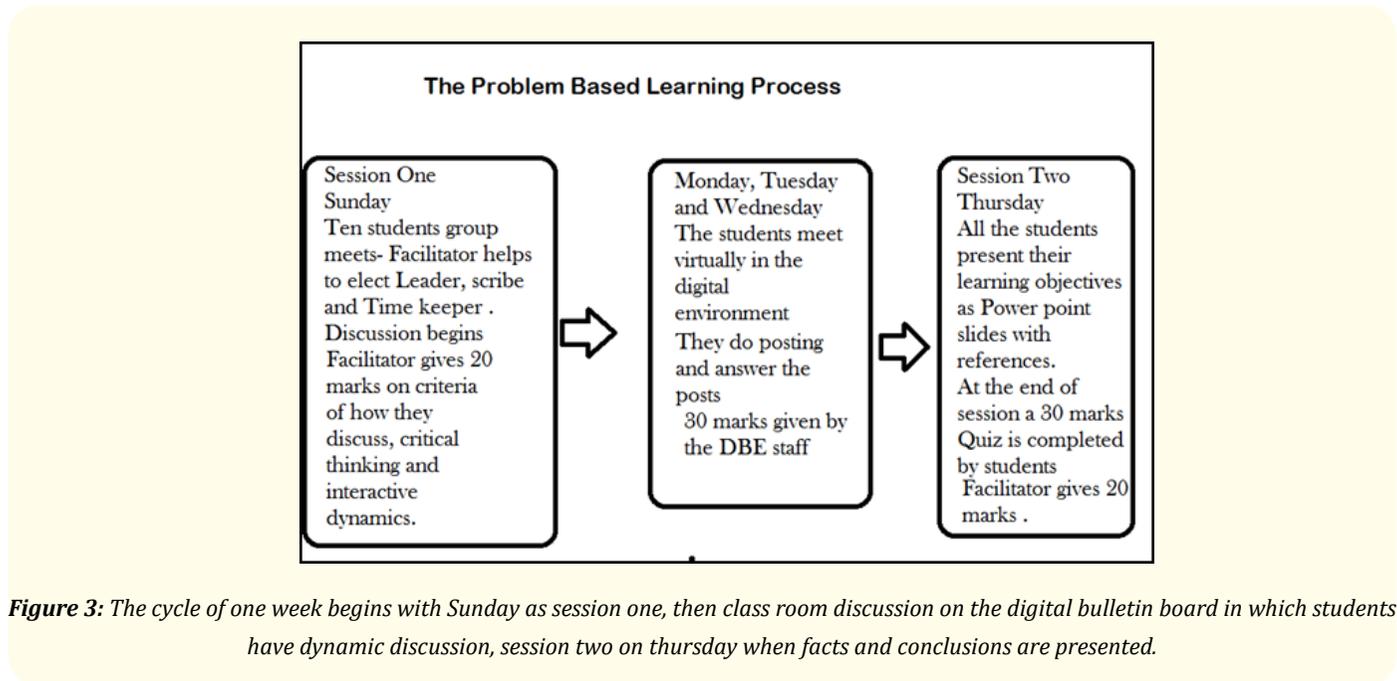


Figure 3: The cycle of one week begins with Sunday as session one, then class room discussion on the digital bulletin board in which students have dynamic discussion, session two on thursday when facts and conclusions are presented.

In our university, the working days are Sunday through Thursday with weekly off on Friday and Saturday.

Session One: A group of ten students meet at the conference room designed for this purpose. There is a round table and computer set up with projection facilities, a white board and internet facility at the site.

Facilitator uploads the scenario on to the computer screen. He takes the attendance and then requests the students to elect a leader, a scribe and a time keeper. The Leader has to be selected in rotation every week so all get a chance to be leader and develop requisite skills. The scribe stands up in front of the group and then writes down the key words, unfamiliar terms and new concepts on the white board as the members discuss them, and all the members of the PBL are expected to make their own notes in their PBL notebooks. The time keeper states how much time all the students have for each step of the process. Leader keeps an eagle’s eye on the members and guides to all the members for uniform participation in PBL discussion process.

Steps of the Process

1. Loud reading of the scenario
2. Identifying the key words, unfamiliar terms and new concepts
3. The meanings are written down and students formulate their own concepts / Facilitator does not give any answers. He observes how they interact with each other, their sense of critical thinking and group dynamics
4. The learning objectives are generated from the key words.

5. Each student is given the charge of one objective to read in detail, reference it and make it ready for presentation as a PPT in the next session.
6. The content expert, who designs the scenario, oversees the digital class room and then formulates the Quiz which is implemented by Facilitator on session two and assessed by the expert himself.

The power points and the papers submitted are all kept in a digital reserve of the University termed as Black board which the students can access all through the year, thus they generate the resource library thorough this process for use of the entire class through the academic year.

Conclusion

The Problem based learning has been uniformly liked by all the graduate students in the faculty of dentistry, at the Taif University at Taif. The dynamic aspects of this method help in the continuous learning process. It makes them experts in the academic adventure of searching for new knowledge and the group discussions helps them to make them into team players and improves their interpersonal communication skills [2] making them self-directed learners.

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