

## **Facilitating facilitators to facilitate, in problem or enquiry based learning sessions**

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Problem based learning (PBL) has been used in dental education over the past 20 years and uses a patient case scenario to stimulate learning in a small group setting, where a trained facilitator does not teach but guides the group to bring about deep contextualized learning, to be empathetic to each other and to encourage fair and equitable contribution from individual learners. Learners are encouraged to appreciate that they individually perform better when they actively participate in the group and share resources, than when they learn in isolation (Bandura, 1977, Freire, 1972, Lave and Wenger, 1991, Kolb, 1984 and Vygotsky, 1978).

Good facilitation during PBL sessions is quite an art, it is not merely a question of sitting there; it requires proficiency in understanding the concepts behind adult learning theories, excellent non-verbal and verbal interaction and skill in guiding and enhancing student performance. Some formal pedagogical training of PBL facilitators is required, although there are alternatives to this, and training of PBL facilitators in workshops seems to be a crucial component of successful facilitation, which should be delivered by experienced PBL facilitators, alongside reflection and peer review of facilitation skills (Azer, 2011, 2013).

At the Peninsula Dental School, training days are held for facilitators where the facilitator's role is emphasised as being instrumental in supporting the pedagogical process of problem-based learning. Dolmans, De Grave, Wolfhagen and van der Vleuten (2005) cited facilitators who teach as one of reasons for reduced effectiveness and poor implementation of problem based learning, but this is one of most contentious issues to tackle when training facilitators. By clearly describing the facilitator's role in each step of the PBL process and using feedback questionnaires, as a tool for reflective practice, it may be possible to address this issue.

Being a facilitator evokes an internal struggle, with the following thoughts potentially spinning through one's head "How long do you wait before you interrupt? Do you or do you not correct an incorrect statement? How long do you allow silence?" By understanding the pedagogical process, it is possible to ameliorate these concerns. At Peninsula Dental School,

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the Maastricht 7 steps (Schmidt, 1983) are followed for each problem-based learning case scenario (figure 1), and the roles of the facilitators are described for each session.

Figure 1



#### *During the first brainstorming session*

- The facilitator should place an emphasis on all the students, right from the start of the process, that they will all be active contributors and there is no tolerance of passivity, whatever their abilities or disabilities. This includes dyslexic students being encouraged to read the scenario and participate in writing on the board, as there will be no comment on spelling.
- The students should feel safe and un-judged by the facilitator and be free to raise bizarre and out-of-the norm concepts without ridicule from their peers or the facilitator.
- Problem-based learning sessions are a professional learning experience and not a

social gathering, and the facilitator should draw on prior knowledge from some students to aid others in their understanding and co-construction of new knowledge, taking care not to let expertise make novice learners feel inadequate.

- The facilitator should induce situational interest as a result of knowledge deprivation, and drive hunger for learning.
- The facilitator should aid the students in developing SMART questions that are specific, measurable, achievable, relevant and timely. For example, using “How” at the beginning of a learning objective stimulates clarity in a learning objective, rather than “What”.

*During self-directed learning time* the facilitator should encourage collaborative learning by commenting on the use of shared IT learning environments, drawing attention to plentiful contributors and querying poor contributors. Students should be encouraged to appreciate that they learn more individually if they work together collaboratively. This is a challenging concept for ambitious driven students but if all group members are encouraged in this fashion, there will be benefit to all.

*During subsequent sessions*

- All students should be prompted by the facilitator to contribute, but not to interrupt or talk over others and nothing should be ridiculed. Contributions should be encouraged to be even, involving dialogue and not monologues, with the behavior of dominant students being moderated by the facilitator, making them realise other quieter students must be given an opportunity to show what they have learnt, and shy students should be encouraged to contribute more often to allow the facilitator to measure their depth of learning.
- The facilitator should discourage students from cherry picking some learning outcomes to share between group members and insist that all students cover all learning objectives. The students must demonstrate to the facilitator that they have used their self-directed learning time effectively to cover all learning objectives for a particular case, to a sufficient depth, by contributions for all the learning objectives. In the same vein, some students, who wish to impress the facilitator, may always initiate discussion with superficial detail, but should then be encouraged to continue speaking by the facilitator with depth and breadth on the subject. It is a skill of a facilitator to detect when a student may be weak on a topic and encourage further self-directed learning.
- Verbalisation of the learning objectives is essential to demonstrate to the facilitator the depth of learning that has occurred, and the facilitator can stretch this understanding by asking “what if” questions, by slightly changing the scenario, to check if acquired knowledge could be transferred to new situations.
- The facilitator should encourage students to cite their point of reference, to support their contribution, and encourage a greater width of reading by the whole group.

- To ensure deep learning has occurred the facilitator could ensure the students produce and only use one A4 sheet of bullet points to cover the learning objectives for that problem-based learning session, rather than referring to their notes or other resources, and in bite-sizing their learning in this way, allowing the students to demonstrate that they have experienced, reflected on, thought about and planned their learning. Students must be encouraged by the facilitator to use these bullet points to prompt input, so that the merit of deep learning for understanding is appreciated rather than superficial rote learning for assessment, as exemplified by reading from the A4 sheet.
- The facilitator should resist the urge to teach information and encourage students to take responsibility for their own learning by encouraging following up of unanswered questions from the sessions, themselves.
- The facilitator must be wary of filling silences with comments and questions and permit the group themselves to take enough time to continue dialogue.
- The facilitator should however, feel an active member of the group and steer the group with non-verbal communication, such as nodding, smiling, raising eyebrows and using hand gestures to prevent interruption.
- The facilitator should be a positive role model and behave in a professional manner at all times. The facilitator must not allow any discrimination in terms of gender, ethnicity, age, socio-economic background or culture.
- Too dominant a facilitator causes tension in a group, student absenteeism and cynicism and conversely a passive facilitator who does not regulate the group, hinders the learning process (Hendy, Ryan and Harris, 2003).

### ***Feedback time***

Enough time should be allocated for meaningful feedback to be given to the students by the facilitator, to identify further learning needs or barriers to learning. This must be done to the group as a whole, both from the facilitator and by the individual students to the whole group, to iron out undercurrents of group dissatisfaction, and also on a one-to-one basis by the facilitator to each student to aid them identify their own strengths and weaknesses.

Reflective practice by facilitators is an important element of engaging in the cycle of experience, reflection, thinking and planning (Kolb, 1984). A Peninsula Facilitator Questionnaire has been developed at Peninsula Dental School to evaluate facilitators by students, and the very questions themselves used, may drive facilitators to reflect on their roles within problem or enquiry-based learning and alter their practice accordingly. The questions are divided into self-direction, contextualisation, collaboration, active engagement and professional attributes. A 5-level Likert item is used (Likert, 1932).

*Self-directed learning in which the facilitator helped us to...*

- Learn at sufficient depth
- Search for a variety of resources
- Identify our strengths and weaknesses
- Take responsibility for own learning

*Contextual learning in which the facilitator helped us to...*

- Apply knowledge from self-directed learning
- Apply knowledge to other scenarios

*Collaborative learning in which the facilitator helped us to...*

- Participate in discussion
- Feel safe and not be ridiculed
- Feel comfortable to contribute
- Keep contributions even
- Share resources within the group
- Give constructive feedback to the group

*Active learning in which the facilitator helped us to...*

- Summarise in our own words
- Understand mechanisms/theories
- Identify gaps in knowledge
- Integrate knowledge
- Feel enthusiastic
- Feel learning was useful
- Feel learning is relevant

*Professional attitude of the facilitator*

- Facilitator is clear about their strengths and weaknesses
- Facilitator is motivated
- Facilitator is a role model

With these questions in mind, facilitators should be mindful of all they are trying to achieve in problem or enquiry-based learning sessions. More study is needed to assess the usefulness of this questionnaire, and feedback required from the facilitators on how it influenced them.

***Reflections***

By following the guidelines set out in this PBL case, facilitators can provide a safe, non-judgmental, adult learning environment, where students take responsibility for their own learning and can demonstrate this to the facilitator through equitable contributions, to a sufficient depth and where meaningful feedback is given to the individual and the group as a whole. It is important to remember that problem-based learning sessions are professional

learning environments and not social engagement activities, and whilst the sessions should be fun and engaging, the facilitation of the process, as well as the facilitator subject knowledge, impacts heavily on how well students react to problem-based learning (Schmidt, Rotgans and Yew, 2011).

It would seem reasonable to assume that the facilitator should be subject specific qualified and that it would not be acceptable for a layperson to be a facilitator. Dolmans et al widely researched this and found no firm conclusions (Dolmans 2002), but I feel the safety net of a professional would seem appropriate, even though students should be able to correct any incorrect statements through their own knowledge.

There are alternatives to formal pedagogical training but I would conclude that PBL facilitators need time to be trained by already expert PBL facilitators in the pedagogy outlined in this PBL case, with a wide range of alternative strategies used to foster facilitator's skills such as mentoring, continuous support, encouragement to complete a post-graduate certificate in education, participation in research projects and attending education conferences.

## References

- Azer, S. (2011). Introducing a problem-based learning program: 12 tips for success. *Medical Teacher*, 33(10), 808-813.
- Azer, S., McLean, M., Onishi, H., Tagawa, M. and Scherpbier, A. (2013). Cracks in problem-based learning: What is your action plan? *Medical Teacher*, 35(10), 806-814.
- Bandura, A. (1977). *A Social Learning Experience*. Englewood Cliffs NJ: Prentice Hall.
- Dolmans, D. H. J. M., Gijsselaers, W.H., Moust, J. H. C., de Grave, W.S., Wolfhagen, H. A. P. and van der Vleuten, C. P.M. (2002). Trends in research on the tutor in problem-based learning: Conclusions and implications for educational practice and research. *Medical Teacher*, 24, 173–180.
- Dolmans, D. H. J. M., De Grave, W., Wolfhagen, I. H. A. P. and van der Vleuten, C. P. M. (2005). Problem-based learning: future challenges for educational practice and research. *Medical Education*, 39, 732-741.
- Freire, P. (1972). *Pedagogy of the Oppressed*. Harmondsworth: Penguin.
- Hendy, G.D., Ryan, G. and Harris, J. (2003). Group problems in problem-based learning. *Medical Teacher*, 25(6), 609-616.
- Kolb, D. A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Lave, J. and Wenger, E. (1991). *Situated learning. Legitimate peripheral participation*. Cambridge: University of Cambridge Press.

Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychiatry*, 140, 1–55.

Schmidt, H. (1983). Problem-based learning: rationale and description. *Medical Education*, 17, 11-16.

Schmidt, H., Rotgans, J. and Yew, E. (2011) the process of problem-based learning: what works and why. *Medical Education*, 45(8), 792-806.

Vygotsky, L. S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.