2. On being a coach/facilitator

Whether you are a tutor for a small group or a single instructor facilitating the PBL approach with classes of 20 to 80 students at once (as I am), the same attitude toward facilitation skills is needed.

Instructors or lecturers-- by their very name-- see their role primarily as lecturing. They stand and deliver. They do their own thing and try to facilitate learning. However, in PBL the instructor's role is to facilitate. The instructor is a coach. The coach does **not** do his/her own thing. The coach tries to bring out the best in the group.

In PBL the coach or facilitator brings out the best from the group by:

asking leading and open-ended questions, to help the students explore the richness of the situation and to help them develop their critical thinking.

helping students reflect on the experiences they are having, because reflection develops professional skill (Schon, 1987); reflection improves problem solving (Kimbell et al., 1991) and elaboration and reflection improves the learning (Schmidt, 1983; Coles, 1991). These reflective skills are part of effective problem solving and group skills.

monitoring progress, because successful problem solvers monitor their thought processes about once per minute to ensure that they are still on track and that they understand where they are in the process (Schoenfeld, 1984). Monitoring is a key component in effective problem solving.

challenging their thinking, so as to nurture deep learning and a search for meaning and so that they develop their critical thinking skills.

raising issues that need to be considered, because groups without facilitators tend to identify about 60% of the teacher's intended goals (Dolmans et al., 1993).

stimulating, encouraging and creating and maintaining a warm, safe atmosphere in which individuals will be willing to share experiences and ideas without fear of being ridiculed, because **trust** is the key ingredient to develop (Covey, 1989). Trust is nurtured by such an environment.

All of these interventions address the process skills needed: skill in problem solving, critical thinking, group process, change management and lifetime learning.

The facilitator is **not** the group's expert resource who will provide the answers nor should the facilitator use this as a chance to lecture. One might think that the best facilitator would be a non-expert in the discipline subject under consideration. However, such a facilitator is not sure when the students are off-base or if they have misinterpreted the information. This is detrimental to the student's learning and to the facilitator's morale. If you feel unsure about the new role, you could try being a facilitator in someone else's class with that person present to keep the discussion on track "technically".

Why is the facilitative role vital?

Think of a newly-formed basketball team. Each member might be very skilled. But, guidance is needed to develop trust, help individual's to see their contributions, to provide perspective, to encourage and to critique. The coaching role is vital.

But how do we do this if we are a tutor? or if we are an instructor with 20 tutorless groups?

2.1 Being a tutor in a tutored group

Barrows and Tamblyn (1980), Sparks (1984) and Woods suggest the following comments that a facilitator might say:

_Hummm, or other such acknowledging noises.

_I'm not sure that I follow you, would you mind repeating that so that I can understand your approach.

_Let's collect ideas about this,

_Any other ideas?

_Are you sure? Can you check that?

_Why is that? How come?

_Why did you come to that conclusion?

_Do you agree with what was just said?

_If what you suggest is true, then how would you explain...

_For this situation, have you ever considered or thought about...

_Are you sure of what you are saying?

_Do you feel you need to look up that point?

_You seem unsure. Where could we find the information that would help you clarify this? Are there other ways to examine this problem? What are the assumptions being made? major? minor? hidden? flexible? questionable?

_Why did you study this? Why was this work done? Why in this context?

_How is this related to other information? Are there inconsistencies? How can they be reconciled?

_What are some concrete examples?

_So what? What can we do now that we couldn't do before?

_Where does the new information lead?

In addition, the tutor can remind the participants of the importance of feedback, reflection and elaboration so as to improve learning.

The facilitator might ask:

ˆWho is the chairperson for today's session? Who will be for the next session?

ˆBefore we wrap up this session, might it be a good idea to reflect on how we handled the processing skills? For example, how well did we handle the problem solving dimensions? How did we function as a group? What were our five strengths and the two areas to work on? Can we set goals to improve our process skills for our next meeting?

ˆDo you wish to use feedback forms to guide whatwent on today? feedback for problem solving? for group process? for managing change? for chairperson? for self-directed, interdependent learning? for self-assessment?

Naturally, which questions are asked and how the tutors fulfil their roles depends on how you have agreed to work. You should be comfortable with the role.

As a resident expert, the facilitator should respond to direct inquiries only when she/he is sure that the students have exhausted their own logic and that there is no other profitable learning experience for the students. The tutor's interjection should not rob the students of intellectual growth.

We could polish up our skills at facilitation - and those of our students with the use of the Whimbey pair awareness activity.

The role of the "listener " in the Whimbey-pair method is similar to the role of a "facilitator". For more about the Whimbey-pair method, see D.R. Woods, PS News **36** (1985) and D.R. Woods, "PS Corner", Journal of College Science Teaching, **13**, May, 469-472 (1984).

LuAnn Wilkerson (1994) has summarized feedback about student's expectation of the tutor in the context of PBL with a tutor available for each group. She identified seven, important facilitation skills. The students rated the excellence of the tutor, made anecdotal comments about what makes an excellent tutor and ranked the importance of the seven facilitation skills. The codes for the skills are given in the footnote in Table 2-1. These skills are correlated with the ratings of the tutor (in column two of Table 2-1); enriched by the anecdotal comments (in column three of Table 2-1); and ranked by importance (in column four of Table 2-1). The responses of both the students and the tutors are included. One of the main findings is that the "tutor must be willing to encourage student-directed discussion and value the development of both knowledge and skills in critical thinking." My interpretation is:

Many skills are needed simultaneously in small group, self-directed PBL: feedback, task and morale group processing skills, guidance with the subject knowledge (to keep students on track) and problem solving/critical reasoning skills.

Table 2-1 What students expect from their tutors in tutored groups (from Wilkerson, 1994)

	Statistically significant facilitation skills correlated with the "excellence of the tutor"		Facilitation skills included more frequently in the anecdotal comments for "excellent tutors".	Ranking of the "importance" of facilitator skills.
Student response	1[*], 2,3,4 [accounts for 48% of the variance]	5,6 [33%]	1. Facilitates the task of the group process. 2. Guides the acquisition of subject knowledge. 3. Facilitates the morale components of the group process. 4. Stimulates critical analysis.	3,2,4,6 7,5,1
Tutor response	2,4,3 [52%]	5,6,1 [48%]		2,3,5, 6 7,5,4

[*]**Coded facilitation skills**

1. Provides frequent feedback.

2.Questions and probes your reasoning process.

3.Encourages critical appraisal of information.

4.Helps students to balance basic science and clinical applications in problem discussion.

5.Encourages student direction of the tutorials

6.Facilitates and supports good interpersonal relationships in the group.

7.Promotes synthesis of multidisciplinary perspectives.

_____

If we don't train and empower the students with these process skills, then they look to the tutor to provide them.

Students enjoy being empowered to have **student-centered** discussion (compared with tutor-led discussion).

Feedback (the * in the table with a factor loading of 0.932) is valued by the students and related to the excellence of the tutor. Without trying to read too much into these data, I suggest that the students are continually searching for feedback as to "how wellam I learning the subject matter? am I learning the right stuff? am I learning it in sufficient depth?". Without such feedback, I think their stress level increases and the uncertainty undermines their performance.

So what? We see that the coach's role is vital. But how do we acquire these skills if we are to be the tutor?

1.Shift our attitude. Understand clearly the difference between lecturing and coaching.

2.Understand the dimensions of the coaching role in PBL. Reflect on the different issues outlined at the beginning of this Chapter and the types of processing skills needed.

3.Accept that a good coach need not be a star player.How many basketball coaches were star players? What we want are excellent coaches. Some say to me, "But I am not that sure I am good at problem solving, or leading groups or solving interpersonal conflicts." You are not asked to solve problems, lead groups or resolve conflicts. You are asked to coach others in how to do that.

On the other hand, some potential tutors are excellent problem solvers, excellent resolvers of conflict and superb group leaders. But they often turn out to be ineffective tutors because they do not know how to coach or facilitate the process with the group.

4.Devote time to learning how to be a coach. Become skilled at bringing out the very best from your group.

Workshops designed to help tutors become good coaches can just as easily be run for students to develop their coaching/facilitation skills. The coaching skills are the processing skills (chairperson, conflict resolution, change management, problem solving, giving and receiving feedback). **Resources** gives explicit details of how to run such workshops.

2.2 Being an instructor with tutorless groups

If, because of class size, you function with tutorless groups, then your task is to create an environment to ensure that facilitation occurs by other means. You need to make the implicit explicit. If the tutor, as a member of the group, is trained to help the group resolve conflict; then in a tutorless group, the group members should receive this training. If the tutor is expected to probe the critical thinking of the group, then the group members need to be empowered to do this.

The overall role of the instructor is:

To learn how tutored groups function, learn their challenges and make those challenges (and how to handle them) explicit.

To provide training to the students about how to handle each issue; (instead of training the tutor, we train the students; maybe we train both.)

To monitor, assess and provide feedback to the students about their ability. Just because theinstructor is not a listening member within each group does not mean the instructor forsakes the role of monitor and assessor. All it means is that other avenues must be developed to achieve these goals. The instructor must hold the groups accountable for the activities we empower the student groups to do.

2.3 Summary

The facilitator/coach role **must** be present in any effective PBL group. The role is to bring out the very best from the group members. Research cited at the beginning of this Chapter outlines what particular facilitation skills the coach must supply. Wilkerson's research confirms the critical roles and skills needed.

For tutored groups, the faculty tutor usually supplies most of these skills. This requires an attitude shift from "lecturer" to "coach". Although many may intuitively possess these skills, tutor training helps to develop the coaching expertise.

For tutorless groups, the students receive the training in the process skills so as to bring out the very best in their groups. The tutor creates the learning environment for this to happen. The tutor monitors progress.

2.4 References

Barrows, H.S. and R.M. Tamblyn (1980) "Problem-based Learning: an approach to medical education," Springer Publishing, New York, NY.

Coles, Colin (1991) "Beyond PBL," in "The Challenge of Problem-based Learning," D. Boud and G. Feletti, eds., Kogan Page, London.

Covey, S. (1989) "The 7 Habits of Highly Effective People," Simon and Schuster, New York.

Dolmans, D.H.J.M. et al. (1993) "Problem Effectiveness in a Course Using Problem-based Learning," Academic Medicine, **68**, 207-213.

Kimbell, R., K Stables, T. Wheeler, A, Wosniak and V. Kelly (1991) "The Assessment of Performance in Design and Technology," National Examination and Assessment Council, Newcombe House, London.

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

Schoenfeld, A.H. (1984) "Episodes and Executive Decisions in Mathematical Problem Solving," in "Acquisition of Mathematics Concepts and Processes," R. Lesh and M. Landau, eds., Academic Press, New York.

Schon, D. (1987) "Educating the Reflective Practitioner: toward a new design for teaching and learning in the professions," Jossey-Bass, San Francisco.

Sparks, R. (1975) Washington University, St. Louis, personal communication.

Wilkerson, LuAnn (1994) "Identification of skills for the problem-based tutor: student and faculty perspectives," seminar, McMaster University, Hamilton, ON.

Woods, D.R. PS News **36** (1985) Newsletter published biannually by the Department of Chemical Engineering, McMaster University, Hamilton, ON., L8S 4L7.

Woods, D.R., "PS Corner", Journal of College Science Teaching, **13**, May, 469-472 (1984)