

THE TUTOR
IN

PBL

PROBLEM BASED LEARNING
a novice's guide

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The Tutor in Problem Based Learning: A Novice's Guide

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1

Problem Based Learning: The Meaning of the Term

Since its inception in health science education, problem based learning, or PBL, has grown dramatically. Reviewing the many programs using it, both in Canada and internationally, it is clear that PBL programs come in many shapes and flavours – which makes it very difficult indeed to compare and evaluate different programs – and can lead to many false assumptions of commonality in conversations amongst educators from different programs.

At McMaster University, Faculty of Health Sciences, the term can be taken to refer to the primary educational methodology, in which a health care problem serves as the stimulus and guide to student learning. It is quite different from “problem solving”, and the goal of the learning is NOT to solve the problem which has been presented. Rather, the problem is used to help students identify their own learning needs as they attempt to understand the problem, to pull together, synthesize and apply information to the problem, and to begin to work effectively to learn from group members as well as tutors. From this approach come the frequently heard buzz words: **small group, self-directed learning.**

However, the PBL approach is not about simply handing students a problem and then standing back to see what they do with it. Clear, well written learning objectives are absolutely essential to ensuring that students achieve the content knowledge required for their profession, and tutors have a key role in ensuring that students are on track and productive in their work.

Each professional school at McMaster will have PBL tutorials organized in slightly different ways. There are a variety of group sizes, and programs will use other educational methodologies in differing quantities. Nonetheless, PBL is a major teaching format in the Faculty of Health Sciences, and the basic steps that are followed for each problem are the same.

2

The Steps of Problem Based Learning

Although these steps are listed in a straightforward fashion, there is often some overlap, and rethinking as the group proceeds.

Steps in Problem Based Learning

1. Identify the problem
2. Explore pre-existing knowledge
3. Generate hypotheses and possible mechanisms
4. Identify learning issues
5. Self study
6. Re-evaluation and application of new knowledge to the problem
7. Assessment and reflection on learning

1. Identifying the problem

The students read through the problem and discuss it. They may be tempted to “diagnose” the problem right away, and need to be encouraged to think more deeply about all the “why’s, how’s, and when’s”.

2. Explore pre-existing knowledge

Clarifying terms and the meaning of terms used in the problem is a good way to start this step, before going on to a more in depth exploration. Students come with an existing knowledge base and many life experiences. We know that people retain newly acquired knowledge more easily when they already know something about it – and this second step allows students to consciously access their own prior understanding and begin to apply it for their own benefit and that of others in the group. Tutors need to ensure that all students participate in this step, and also to help the group consider critically the information that is brought forward by its members. Tutors often wonder how much they should contribute to the group’s understanding at this point. Often they have a wealth of knowledge in the area. However, at this point, tutors should use this knowledge

to help ensure students are not going off on unproductive avenues in the next step.

3. Generate hypotheses and possible mechanisms

Based on the discussion which has gone before, students then generate hypotheses about the nature of the problem, including possible mechanisms. It is important for the tutor to help them from falling into the trap of jumping to diagnosis and superficial assessment of the clinical aspects of the problem. The aim is to have the students focus on understanding the key concepts which are illustrated by each problem, and this requires that they delve deeper into it. The adept tutor will ensure that all students are engaged in this step, and that the hypotheses that are generated can be related to the learning objectives of the problem.

4. Identify learning issues

Learning issues may be defined as questions that cannot be answered with current knowledge within the group. They can, however, be managed by careful inquiry. At this point, it will have become clear to students what their learning issues are, both as a group and as individuals. It takes considerable work on the part of the tutor to help an inexperienced group come up with clear learning issues, formatted into focused questions, which again relate back to the overall objectives for the problem. These questions will be the basis of the students' search for resources and information, and much frustration can be avoided if they are well formatted and clear. Keep in mind that at the end of the problem, the students will need to identify and understand the important concepts contained within the problem, and this should be reflected in the identified issues.

5. Self-study

The educational program should be clear as to whether all students are to focus on all learning issues, or whether it is appropriate that students select areas on which to work in the self-study component. Nonetheless, all students will be expected to understand and work with the material brought by the other group members. Often students are tempted to focus on their areas of existing comfort – experienced students understand that it is more helpful for them to work in areas where their own learning needs are highest. Students will have a set amount of time for self-study before returning to the next tutorial. It is obviously critical that the edu-

cational program design builds in time for this crucial step in the process, and not over schedule the students.

6. Re-evaluation, and application of new knowledge to problem

A very crucial step in the PBL process occurs when the group reconvenes, having spent time learning about the issues identified earlier. It is at this time that the new knowledge and understanding is applied to the original problem, and the tutor is handed the challenge of ensuring that the students are actively engaged and working with their new knowledge. Educational research, as well as common sense suggests that working with new information, questioning it, and applying it to different situations helps stimulate recall for the future. At all costs, it is important to avoid a series of “mini-lectures” from each student (or the tutor). Rather, students must be encouraged to ask each other questions, to explain difficult concepts to each other, and to identify and understand the key concepts which can be applied to the problem.

Tutors may also stimulate the students’ learning by posing questions which challenge them to apply these concepts in slightly different contexts (for example: Suppose Mr. K.W. was a woman? Lived in Kenya? Was 12 years old?). While it can be perfectly appropriate for a tutor to elucidate a confusing idea for students, or to challenge inaccurate information, it is VERY important for a tutor to monitor how much “air time” they are taking in tutorial. It is all too easy at this point to begin delivering a lecture.

Quick Tips

Stimulate thorough examination of the problem, not diagnosis

Use expertise to frame challenging questions, rather than mini-lecture

Focus on understanding key concepts

Help students format focused questions to be researched

Encourage students to avoid researching their existing areas of expertise

Challenge students to apply new concepts in different contexts, and recognize previously learned concepts when they appear again

Build in time for reflection and feedback

7. Assessment and reflection on learning

Before the Health Care Problem and the tutorial can be considered complete, it is important that each student and the group have an opportunity to reflect on the process of learning that has taken place. This includes a review of the learning achieved, but also a chance for group members to give each other feedback about contributions to learning and group process, and an evaluation of how the group is working together. Some students and tutors may not appreciate the importance of this evaluation component. However, the importance of facilitating the group to shape its functioning and make adjustments before problems grow large cannot be over estimated. Those who have worked in a dysfunctional group appreciate the benefits of regularly attending to the smooth operations of the tutorial group. In addition, summarizing new learning helps consolidate it for future application.

3

Advantages and Disadvantages of Problem Based Learning

Problem based learning has become an extremely popular form of education in the health sciences and other disciplines. It has had the attraction of making pedagogical sense – it holds out the hope of fostering the application and integration of knowledge, building on previous understanding, and relevance to future professional activities. Research has not clearly confirmed these hopes. One thing that does stand out is the enthusiasm of faculty and students for the process. This is not universal amongst all faculty and students however. A recent study of McMaster medical students suggested that a small minority of them find the PBL process difficult and unfulfilling, and given the choice would prefer another learning method. There are suggestions that a few tutors prefer to modify tutorials into a seminar format which may be more familiar and comfortable for them. Nonetheless, the majority of students and tutors find that the PBL process is vastly more engaging and stimulating than traditional formats.

However, there is some evidence that PBL students may have some advantage over those from conventional curricula. According to Norman and Schmidt (1992), they may retain knowledge longer, although initially may have less of it, and may have better self-directed learning skills. Other key principles such as relevance, practice, and active learning are enhanced by PBL formats. While students in a poorly functioning group may have more difficulty in meeting their learning needs, they will also be learning skills of the utmost importance in their work as professionals who achieve much of their work through groups.

On the other hand, PBL is very resource intensive. Increasing student enrollment entails a great deal more than adding another row of seats to the back of the lecture theatre. Many faculty members are required, and all must be well prepared for the role of tutor.

4

Role of the Tutor in Problem Based Learning

The switch from disseminator of information to facilitator of learning can be challenging for those new to tutoring. Those unfamiliar with the PBL process often express uncertainty about the function of the tutor. How directive should the tutor be within the group? What are the necessary facilitation skills for effective group functioning? Does the tutor need to be a content expert as well as a skilled facilitator? Several conclusions can be drawn from a review of the literature published by Neville in 1999.

As described earlier, the tutor's expert knowledge of the subject is best deployed through asking questions and challenging assumptions rather than providing mini-lectures on the subject. Tutors who are unfamiliar with the content of the problem are more likely to allow students to wander down fruitless paths, but the expert runs the risk of taking over the discussion once he or she begins to deliver information to the students. The consensus is that the best tutors are expert at both content and process facilitation.

It is necessary for tutors to strike the appropriate balance between dominating tutorial discussion on one hand and detaching themselves from student learning in the tutorial on the other. This requires considerable insight on the part of the tutor, and a willingness to reflect on tutorial process and actively invite feedback from the students. Novice students probably benefit from more structured curriculum or more directive tutors while there is benefit from allowing experienced students more leeway in their learning paths. The adept tutor is able to adjust to the level required by each student group.

Given that there can be no hard and fast rules for tutoring, it may be helpful to consider the following elements for learning design, modified from Knowles (1975), all of which can be considered tasks for the PBL tutor to facilitate in working with the tutorial group members:

- Climate setting – create a safe, conducive environment for self-directed learning
- Planning – organization and structure of tutorials
- Clarifying learning needs – frame learning objectives and set goals
- Designing a learning plan – help students with learning plans, develop strategies
- Engaging in learning activities – guidance to ensure that students are on track with their learning
- Evaluating learning outcomes – include formative feedback as well as summative evaluation

One PBL medical school (The University of New Mexico School of Medicine) has identified the following characteristics of effective tutors:

- Student centred
- Creates a motivating environment
- Manages time and process
- Uses questions effectively
- Manages group dynamics
- Ensures constructive feedback

In addition, it is noted that students criticize the following tutor behaviours:

- Interrupting students
- Over-participating/directing
- Telling too many stories
- Promoting competition rather than cooperation
- Dictating pace/rushing things
- Going off/letting group go off on tangents
- Not encouraging students to go to the board
- Not pushing students hard enough, or pushing too hard

As well as facilitating group process, the expert tutor will help students understand and recognize important concepts as they arise in the course of the problem.

Revisiting previous concepts and helping students to recognize these concepts when they occur in different contexts will help stimulate knowledge acquisition. The use of open-ended and higher order questions will encourage students to think critically and engage with the material. Asking students to demonstrate their understanding through the use of diagrams, charts, and verbal explanation will help them learn from each other as well as recognize any limitations in their understanding. Helping students identify appropriate learning resources will help them with the skills needed upon completion of their degree, as well as facilitate efficient work between tutorials.

Three Levels of Questions

- **Informational**
asks for specific pieces of information
- **Application**
asks students to apply their knowledge to a specific situation
- **Problem-solving**
asks for principles and creative answers to new ideas

Most teachers focus on informational questions because it seems faster and easier, but it is also important in tutorial to focus on the other higher order types.

5

Understanding Group Process in Problem Based Learning

Group formation is a key component of PBL, and it is important that tutors are aware of the usual normal stages that any group goes through. Tuckman's theory, briefly outlined below is a helpful framework.

Stage 1: Forming

When groups are first convened, members are usually uncertain about their roles and the functioning of the group. The tutor's job includes helping to build trust and acceptance amongst the group, and ensuring that the need for orientation is met.

Stage 2: Storming

This stage is notable for the beginning of competition and conflict between group members. This is a normal and healthy development arising from individuals being required to adjust to the needs of the group. The tutor must recognize these conflicts, normalize them and help to ensure that they are used to further the functioning of the group. Encouraging the group to actively listen to each other, and ensuring that everyone is being treated fairly and with compassion is crucial.

Stage 3: Norming

Having passed through the troubled waters of the second stage, groups characteristically move on to develop cohesion and a sense of identification with one another. At this point, an active exchange of ideas and feelings between members occurs. The tutor is not required to be as active in facilitating group process and students are able to function more independently in achieving their learning tasks. However, it is important for the tutor to continue to track group function and offer feedback when necessary.

Stage 4: Performing

Not all groups are able to reach this stage, in which the group is more than the sum of its parts. Members work well together, with a high level of trust and allowance of independent activity. Energy in the group is directed primarily at the task in hand. It is a pleasure to be a part of such a group, which may mean that group members actively resist its necessary dismantling at the end of the course.

Stage 5: Mourning

As mentioned, group members may resist moving on to a new group and may attempt to continue the group through social interactions. The tutor's role here is to identify what is happening within the group and to normalize it so members can go on to form new productive groups.

For more on applying this theory to PBL groups, please see [Appendix 1](#).

6

Getting a Group Started in Problem Based Learning

The first meeting of the tutorial group will often set the tone for the remainder of the sessions. After introductions, it is important for the tutor to facilitate the setting of group norms. Inviting the students to make suggestions based on what has worked well in previous working groups is a helpful way to start. Typical examples often concern punctuality, interrupting, notification of absence, etc. Tutors may make suggestions as well. These norms should be recorded, and revisited from time to time, as the group begins to work together. Students may wish to define roles for each other – such as timekeeper, room booker, etc. Tutors need not take on all the housekeeping tasks for the group. Experienced PBL students will have all of this organized in short order. At the start of each tutorial, it is advisable to spend a few minutes dealing with organizational issues. Once this is dealt with, it is time to jump into the problem.

The Health Sciences Programs at McMaster have developed a ***Guide to Professional Behaviour in Tutorials***, which may provide students with an understanding of the expectations from the beginning. Please see [Appendix 2](#).

7

Assessment and Evaluation in PBL

One part of the PBL process includes regular opportunity for feedback to all group members. This formative feedback should occur at the end of each tutorial. Even if usually brief in duration, it is an important way to ensure that tutorials are proceeding on track and for students to receive regular feedback. Without this activity, it is possible for problems in the group to be deferred until they become very large and difficult to handle. Simply going around the table and asking each member for a reflection on personal learning and contribution of the group and its members may suffice.

Clearly, both faculty and students need to understand the principles of delivering effective feedback. Entire workshops are conducted on this topic, but in brief, to be effective, feedback should be:

- Specific
- Focused at what is changeable
- Framed as positively as possible
- Inclusive of things to be reinforced as well as those to be modified, but not too many of either
- Linked to learning objectives and to actual observation
- Well timed
- Built on self-assessment

For additional info., please see: Aids for Giving and Receiving Feedback found on the Program for Faculty Development website– www.fhs.mcmaster.ca/facdev/feedbackaid.pdf.

Each school and program has its own methods for summative student evaluation. There is some disagreement about the degree to which students can be evaluated by PBL tutors. Nonetheless, the tutorial is the primary mode of instruction in the Faculty of Health Sciences and it is very necessary that student performance in tutorial be evaluated in a summative fashion.

Of course it is important to evaluate the tutor, also! What is clear is that professional behaviour, contribution to group process, and group content are manifest in tutorial groups, and can be appropriately evaluated by the tutor as well as student group members.

A common tutorial evaluation form, (Appendix 3), has been devised and is appended. In its ideal use, this form would be completed for each student at the end of every tutorial, and together these multiple assessments would form a basis for the final evaluation. The educational literature indicates that self-assessment is not predictive of actual performance, however when providing feedback, starting this way allows the tutor to gauge the best way to help the student.

8

Common Difficulties in PBL Groups

Most tutorial groups will require the tutor to recognize and facilitate the handling of a few common issues. It is important to recognize that the functioning of the group is the responsibility of the entire group; however, the tutor is expected to have the expertise to be able to ensure things are dealt with. Students may need to be taught principles of effective feedback in order to handle conflicts constructively. For major difficulties, there is a great deal of expertise in dealing with difficult problems within the Faculty of Health Sciences and should this occur, all tutors are encouraged to seek advice and guidance from the program or course director.

In all such situations, it is important that the tutor not collude (or appear to collude) with a student or group of students. Working to facilitate a “win-win” solution to difficulties within the group should be the aim, avoiding the development of schisms within the group.

The common “garden variety” issues are discussed below --

The quiet group member

While people all have their own personality style, the group member who is very quiet and is felt not to be actively contributing to the group’s learning may be identified as a problem in tutorial. It is important to understand why the group member is quiet – is he/she feeling intimidated by other group members? Is he/she unprepared for tutorials? Is it a preference for holding back until everyone has contributed? Is he/she not being given air time by other group members?

Approaching tutorial process problems

- Listen carefully to everyone
- Listen some more
- Clarify issues with the group
- Seek underlying causes
- Facilitate group solutions
- Follow-up on decisions

Tutors can assist the quiet member, by drawing on areas of expertise, or asking for an opinion. Once the issue is identified, ideally at the end-of-tutorial evaluation time, an open discussion within the group may rectify the problem. However, on occasion, lack of contribution to tutorial may be a sign of personal turmoil or difficulties. A quiet word outside of the tutorial might be helpful allowing the tutor to point the student towards some of the supports that are provided by the educational program. As well, the quiet student may feel uncomfortable airing concerns about other group members and may need some guidance from the tutor. It is very important that the tutor not collude (or appear to collude) with the student. It is key that the tutor facilitate the group as a whole to deal with the issue whenever possible.

The dominating group member

Conversely, some individuals have a tendency to talk a great deal in tutorial - to the extent of disrupting group functioning. Again, understanding what lies behind the behaviour is important in dealing with it.

The tutor may ask to go around the group in order to hear from everyone, or may attempt to draw out the other group members. Some advise avoiding eye contact with the dominating member.

Should the behaviour persist, it will come up in the end-of-tutorial evaluations for the group to deal with facilitated by the tutor.

The group that keeps storming

Interpersonal conflicts are an inevitable occurrence when people are working together. Early on, this is a normal part of the group formation process and is a necessary step as people give up some autonomy in order to facilitate group work.

When conflicts within the group persist, or begin to interfere with the group's function, it is important that these be dealt with. Again, the end-of-tutorial evaluation is a natural place for this discussion to begin. The tutor has an important role in surfacing the issues and ensuring that the perspectives of all group members are heard. Facilitating the group's decision-making around handling the issues is also important, ensuring that there are no personal attacks and no ganging up on one another.

Conflict resolution is a large topic, and there are resources for tutors to seek more expert guidance if necessary. Fortunately, this is a rare event.

Final Words

Some say that to teach is to learn twice. For PBL tutors, not only is this true, but one of the joys of this form of teaching is the huge opportunity to learn new things for the first time, while being actively engaged with a group of highly motivated and intelligent learners. It is a wonderful way to work.

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Glossary of Student-Centered Learning Methods

1. Problem Based Learning

In PBL, student learning is driven by the tutorial problems from which students identify learning objectives that focus on their own learning needs. They then re-apply what they have learned to the problem. The goal is not to “solve the problem” – indeed, there may be no solution – but to use the problem as a spring-board for learning. Application of the new knowledge is intended to enhance understanding and retention of knowledge.

2. Inquiry Based Learning

Inquiry learning emphasises questioning, and stimulates learners’ curiosity to explore and gain knowledge. The skills involved in seeking out knowledge are highly valued. The direction of student learning is not crucial, and application of the knowledge is not emphasized.

3. Case Method

This is largely identified with law and business. Students are given a complete case for study and research in preparation for a subsequent class discussion. This differs from PBL at McMaster in that the case material is already organised and synthesized for the students, thus limiting the amount of reasoning and student-directed derivation of learning objectives.

Appendix 1: Facilitating Small Groups: PBL Learning Desired Tutor Competencies

“Problem Based, Small Group Learning” demands a lot of skill from its tutor. Competencies are required along two main dimensions.

“Problem Based Learning” is a pedagogical approach which uses cases and problems as the starting point for acquiring the desired learning objectives. The role of a tutor in problem based learning is different than the role of a course instructor in a more traditional didactic or lecture-based course. There is some evidence that tutors with knowledge and expertise within the content domains can enhance the learning experience of problem based learning participants.

“Small Group Learning” may or not be case based, however, it does assume that the collective resources of the group will be used to enhance the learning of all its members. For this reason, successful group learning depends on a high level of group functioning. Tutors in this setting play a crucial role in helping the group establish itself, setting norms for group function, ensuring group trust and attending to the unique dynamics and characteristics of the group. Knowledge of group dynamics and a skill set related to group facilitation are equally valuable.

Tutors who take on the challenge of “Problem-Based, Small Group Learning” have to be good at everything! Skill and technique for enhancing case-based learning is essential. Equally important is an understanding of group dynamics and the group facilitating skills necessary to create an effective learning environment.

Groups also exist on these two levels: the “task” (ie – what the group is trying to accomplish) and the “interpersonal process” level – how they communicate and function while going about accomplishing the tasks.

Facilitating Problem-Based Small Group Learning: The First Meeting

The first time a tutorial group meets is the most crucial session. The first tutorial often determines the patterns and habits, which the group will adopt for its entire time together. Starting the new group off on the right foot is the most important preventative strategy for ensuring group problems don't occur as the year progresses. It is also the session which requires the most active participation on the part of the tutor.

Because the first session is so crucial, it is important to look at the tutor tasks which relate to the first group session.

Initial Session: Preparation

Before meeting a new group, the tutor must have a firm grasp on the nature of the group's task. This requires familiarity with course learning objectives and how the work of the group will fit into the overall curriculum. In problem based learning, the "terminal learning objectives" are already defined – the students and group are involved in determining the best "pathway" for individual and collective achievement of these. However, the tutor has a responsibility, especially at the beginning, for ensuring the group stays on track.

During the first session, attending to task is often secondary to group formation. Group formation theory is very helpful to the tutor who is trying to help the group achieve as much initial success as possible. The first stage your new group goes through is formation.

Stage 1: Forming

In the **Forming** stage, personal relations are characterized by **dependence**. Group members rely on safe, patterned behavior and look to the group leader for guidance and direction. Group members have a desire for acceptance by the group and a need to know that the group is safe. They set about gathering impressions and data about the similarities and differences among them and forming preferences for future subgrouping. Rules of behavior are to keep things simple and to avoid controversy. Serious topics and feelings are avoided.

The major task functions also concern **orientation**. Members attempt to become oriented to the tasks as well as to one another. Discussion centers around defining the scope of the task, how to approach it, and similar concerns. To grow from this stage to the next, each member must relinquish the comfort of non-threatening topics and risk the possibility of conflict.

In the early stages, tutors need to provide a lot of direction. Members of the group will be looking to the tutor to figure out how things should be done.

Being clear, pointing out when things go right, helping students understand how their behaviours fit into the tasks of the group – are all essential to building the trust necessary for the group to function smoothly down the line.

Questions Members Often ask Themselves

- Will I be accepted or rejected here?
- How will this group be different from my daily interactions?
- What exactly will these sessions be like?
- What risks will I take in here?
- How am I like other people here? Different?
- Will I feel pressured and pushed to perform in some way?
- How important will I be?
- Who will be the real leaders here? What can be achieved here?

Concerns and Fears

- I'm afraid I'll look stupid.
- Will I tell too much about myself?
- Will others like me?
- What if I find out what I'm really like?
- What if everyone rejects me?
- What if the group attacks me?
- I'm afraid I'll be withdrawn and passive.
- What will happen if I really open up my feelings?
- Will I embarrass myself?
- What if I'm asked to do something I don't want to do?
- What if others can tell I'm afraid and nervous?
- What if I find out things about myself that I can't cope with?

Characteristics of Initial Stage

- Silence and awkwardness.
- High anxiety.
- Impatience to “get the ball rolling”.
- Confusion about what everybody is supposed to be doing.
- Storytelling, a tendency to talk about others and focus on people and situations outside of the group.
- Central issue is trust vs. mistrust.
- Testing of each other and the leaders.
- Requests for greater leader involvement.
- Cocktail conversations, safe levels of conversation.
- Vying for informal leadership.

If individual conflicts arise, review them in terms of the task. If there is initially a lack of structure and purpose in the deliberations, impose both in terms of the task. If there are disputes between alternative courses of action, negotiate in terms of the task.

Trust is the key consideration for members in a newly forming group. The tutor helps to build trust by:

- Being clear about task expectations
- Modelling warm personal regard and respect for all group members
- Providing positive feedback when things go well
- Encouraging participation from all group members
- Remaining neutral – not displaying any vested interest in one person over another or in one solution over another
- Accurate listening

The importance of building this trust cannot be overemphasized. The success of the group’s willingness to risk in the service of learning will be founded in the amount the trust the group is able to collectively establish. Trust will be drawn upon during the next stages of group development.

The Middle Ground

The middle ground is where things begin to get interesting. Once the group is past its initial anxiety and people start to drop their facades of “best behaviour”, the group begins to set its sights on the task. Some predictable conflicts emerge which are, in fact, the gateway to a highly functioning

group. The tutor's role is in helping the group navigate the conflicts along the pathway to high performance.

Stage 2: Storming

The next stage, which Tuckman calls Storming, is characterized by competition and conflict in the personal-relations dimension and organization in the task-functions dimension. As the group members attempt to organize for the task, conflict inevitably results in their personal relations. Individuals have to bend and mold their feelings, ideas, attitudes, and beliefs to suit the group organization. Because of "fear of exposure" or "fear of failure," there will be an increased desire for structural clarification and commitment. Although conflicts may or may not surface as group issues, they do exist. Questions will arise about who is going to be responsible for what, what the rules are, what the reward system is, and what criteria for evaluation are. These reflect conflicts over leadership, structure, power, and authority. There may be wide swings in members' behavior based on emerging issues of competition and hostilities. Because of the discomfort generated during this stage, some members may remain completely silent while others attempt to dominate.

Tutors' role in "Storming"

Tutors play a vital role in recognizing and naming conflicts as they arise. The evaluation time of the tutorial is an ideal one to surface conflicts, normalize them as necessary to the groups ongoing evolution and helping the group find ways to meeting everyone's needs. "Win-Win" solutions are desired and help the group to continue deepening trust and learning. Skills learned in addressing conflict during this stage may be called upon again. In the Storming stage, the tutor may need to provide clarification or support to individual members if they are unsure or insecure about their own role within the group. Tutors need to ensure at this stage that nobody is being treated too harshly or unfairly. In order to progress to the next stage, group members must move from a "testing and proving" mentality to a problem-solving mentality. The most important trait in helping groups to move on to the next stage seems to be the ability to listen.

If all goes well, the group will enter its next phase.

Stage 3: Norming

In Tuckman's Norming stage, interpersonal relations are characterized by cohesion. Group members are engaged in active acknowledgment of all members' contributions, community building and maintenance, and solving of group issues. Members are willing to change their preconceived ideas or opinions on the basis of facts presented by other members, and they actively ask questions of one another. Leadership is shared, and cliques dissolve. When members begin to know - and identify with - one another, the level of trust in their personal relations contributes to the development of group cohesion. It is during this stage of development (assuming the group gets this far) that people begin to experience a sense of group belonging and a feeling of relief as a result of resolving interpersonal conflicts.

The major task function of stage three is the data flow between group members: They share feelings and ideas, solicit and give feedback to one another, and explore actions related to the task. Creativity is high. If this stage of data flow and cohesion is attained by the group members, their interactions are characterized by openness and sharing of information on both a personal and task level. They feel good about being part of an effective group.

The major drawback of the norming stage is that members may begin to fear the inevitable future breakup of the group; they may resist change of any sort.

Tutors' role in "Norming"

The group will be functioning fairly independently at this point. The tutor needs to stay engaged, tracking group function and offering corrective feedback when necessary. With less active facilitation demands, the expert tutor may be tempted to direct the content of the group's learning. Resist this temptation.

Stage 4: Performing

Not all groups reach this stage, characterized by a state of interdependence and flexibility. Everyone knows each other well enough to be able to work together, and trusts each other enough to allow independent activity. Roles and responsibilities change according to need in an almost seamless way. Group identity, loyalty and morale are all high, and everyone is equally task-orientated and people-orientated. This high degree of comfort means that all the energy of the group can be directed towards the task(s) in hand.

Many work groups live in the comfort of Norming, and are fearful of moving back into Storming, or forward into Performing. This will govern their behaviour towards each other, and especially their reaction to change. Achieving the “performing” stage isn’t necessary for successful PBL learning.

*** A note on the “non-directive” or “too directive” tutor**

The degree to which a tutor becomes explicitly involved in either the task of learning or in the functioning of the group needs to vary with the circumstances. In general, tutor involvement is called for when the group’s confidence or competence feel low. During the group’s formation, the tutor needs to take on the majority of responsibility for helping the group build trust, make decisions on how to work together, attend to task and participate in reflecting on group function. As groups form and become more coherent, they are able to take on much more of that responsibility. The art of tutoring involves developing awareness of the groups level and functioning and skills in allowing the group to grow without “abandoning it” (too much non-direction) or without “rescuing” the group when it first encounters difficulty (too much control or directivity).

Reference: Tuckman, B. W. “Developmental Sequence in Small Groups.” Psychological Bulletin. 1965.

Summary of Tutor Competencies

- Convene the group
- Be aware of course objectives and have clarity about the tutorial group’s task
- Help the group name norms for working together
- Facilitate group trust
- Have familiarity with group process and be able to accurately diagnose and intervene with a group to help move the to “norming/performing”
- Recognize conflict as normal and inevitable and help the group increase its cohesion and effectiveness by successful managing and learning from conflict
- Protect group members from being scapegoated.
- Give descriptive, explicit positive feedback about desired behaviours

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Appendix 2: Guide to Professional Behaviours in Tutorial Meetings

RESPECT

1. listens, and indicates so with appropriate verbal or non-verbal behaviour
2. verbal and non-verbal behaviour are neither rude, arrogant nor patronizing
3. does not humiliate or denigrate group members for their opinions or information
4. differentiates value of information from value of person
5. acknowledges group members' contributions
6. does not interrupt inappropriately
7. participates in discussion of differences in moral values
8. apologizes when late or gives reason for being so

RESPONSIBILITY

1. is punctual
2. completes assigned tasks
3. presents relevant information
4. identifies irrelevant or excessive information
5. takes initiative or otherwise helps to maintain group dynamics
6. takes initiative or otherwise helps to define group goals
7. advances discussion by responding to or expanding on relevant issues
8. identifies own emotional or physical state when relevant to own functioning or group dynamics
9. accepts priority of tutorial time over other activities
10. identifies lack of honesty in self or others that interferes with group dynamics or attainment of group goals
11. describes strengths and weaknesses of group members in a supportive manner
12. gives prior notice of intended absence
13. negotiates alternatives if unable to complete assigned tasks

SELF-AWARENESS/SELF-EVALUATION

1. acknowledges own difficulty in understanding
2. acknowledges own lack of appropriate knowledge
3. acknowledges own discomfort in discussing or dealing with a particular issue
4. identifies own strengths
5. identifies own weaknesses
6. identifies means of correcting deficiencies or weaknesses
7. responds to fair negative evaluative comment without becoming defensive or blaming others
8. responds to fair negative evaluative comment with reasonable proposals for behavioural change

COMMUNICATION SKILLS

1. speaks directly to group members
2. uses words that group members understand
3. presents clearly
4. uses open-ended questions appropriately
5. uses non-judgemental questions
6. identifies misunderstanding between self and others or among other group members
7. attempts to resolve misunderstanding
8. tests own assumptions about group members
9. accepts and discusses emotional issues
10. able to express own emotional state in appropriate situations
11. non-verbal behaviour is consistent with tone and content of verbal communication
12. verbal or non-verbal behaviour indicates that statements have been understood
13. recognizes and responds to group members' non-verbal communication

Appendix 3: Post Tutorial Evaluation Form

Post-Tutorial Evaluation Form – Tutorial #1

Student Name		Below Expectations		Borderline meeting of expectations		Meets expectations		Exceeds expectations		Exceptional	
		1	2	3	4	5	6	7	8	9	10
1.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10
2.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10
3.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10
4.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10
5.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10
6.	Professional Behaviour	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Process	1	2	3	4	5	6	7	8	9	10
	Contribution to Group Content	1	2	3	4	5	6	7	8	9	10

Comments:

THE TUTOR
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a novice's guide



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