G. Table of contents of related books

G.1 Problem-based Learning: how to gain the most from PBL, G-1

Table of contents

Forword, vii
Preface, vi
Acknowledgements, vii

1. Are you ready for change?
   1.1 The “Growing” Process for Coping with Change, 1-2
   1.2 Identifying the Key Differences Between the “Old” and the “New” as They Apply to PBL, 1-5
   1.3 Use Stress, Time and Anger Management Techniques to Help, 1-5
   1.4 Set Goals, Do Commitment Charting, Monitor Progress and be Motivated, 1-11
   1.5 Summary, 1-13
   1.6 References, 1-13
   1.7 Exercises, 1-14

2. What is problem-based learning?
   2.1 What is PBL? 2-1
   2.2 Advantages and Disadvantages, 2-3
   2.3 Making the Most of the PBL Format, 2-4
   2.4 Summary, 2-6
   2.5 References, 2-6
   2.6 Exercises, 2-6

3. Problem solving skills.
   3.1 Have Confidence, “I want to and I Can!”, 3-3
   3.2 Know the Problem-solving Process, 3-4
   3.3 Become Aware of Your Problem-solving Processes, 3-6
   3.4 Identify Issues and Define Problems Carefully, 3-6
   3.5 Be Organized, Systematic and Monitor, 3-10
   3.6 Enrich your Creativity, 3-14
   3.7 Set Criteria and Make Decisions, 3-14
   3.8 Make Astute Use of Knowledge, 3-17
   3.9 The Role of the Tutor, 3-17
   3.10 Summary and How to Monitor Progress, 3-20
   3.11 References, 3-20
   3.12 Exercises, 3-23

4. What is small group, problem-based learning?
   4.1 What is Small Group, PBL? 4-1
   4.2 Advantages and Disadvantages of Group Work, 4-1
   4.3 Making the Most of the Small Group PBL Format, 4-3
   4.4 Summary, 4-3
   4.5 References, 4-3
   4.6 Exercises, 4-4

5. Group skills.
   5.1 Be Comfortable with Yourself and Value Diversity in Others, 5-3
   5.2 Live the Fundamental Underpinnings of Interpersonal Relationships, 5-3
   5.3 Be a Valued Member of the Group, 5-8
   5.4 Be an Effective Chairperson, 5-11
   5.5 Cope Creatively with Conflict, 5-13
   5.6 Modify your Response to Difficult Behaviours, 5-13
   5.7 Build a Team, 5-15
   5.8 Summary and How to Monitor Progress, 5-15
   5.9 References, 5-16
   5.10 Exercises, 5-19

6. What is self-directed, interdependent, small group, problem-based learning?
   6.1 Some Options for Learning, 6-3
   6.2 Self-directed, Independent Learning, 6-3
   6.3 Self-directed, Interdependent Learning, 6-4
   6.4 Making the Most of the Self-directed, Interdependent, Small group, PBL Format, 6-4
   6.5 Summary, 6-4
   6.6 Exercises, 6-5
7. Self-directed, Interdependent learning skills

7.1 Apply the Fundamentals of Learning, 7-3
7.2 Be a Skilled Independent Learner, 7-10
7.3 Be a Skilled Interdependent Learner, 7-13
7.4 Put It All Together: the Teach Meeting, 7-12
7.5 Summary and How to Monitor and Give Feedback, 7-14
7.6 References, 7-14
7.7 Exercises, 7-17

8. What is self-assessed, self-directed, Interdependent, small group, problem-based learning?

8.1 What is Self-assessed, Self-directed, Interdependent, Small Group PBL? 8-1
8.2 Advantages and Disadvantages to Being Empowered to Do the Assessment, 8-4
8.3 Making the Most of Self-assessed, self-directed, Interdependent, Small Group PBL, 8-4
8.4 Summary, 8-4
8.5 References, 8-5
8.6 Exercises, 8-5

9. Self-assessment skills

9.1 What Content? 9-3
9.2 What Observable Goals? 9-4
9.3 Selecting Criteria, 9-3
9.4 What Resources? 9-11
9.5 What Constitutes Evidence? 9-11
9.6 What is the Purpose of the Assessment? 9-12
9.7 Under What Performance Conditions Will the Assessment be Done? 9-12
9.8 Who Does the Assessment? 9-12
9.9 What Standard Forms are Used for the Assessment? 9-12
9.10 When are the Results of the Assessment Disclosed? 9-14
9.11 What are the Conditions Under Which the Results are Disclosed? 9-14
9.12 When Training in and Monitoring of the Assessment Process Occurs? 9-14
9.13 Self-assessment, 9-14
9.14 Self-assessment in the Context of Self-directed, Interdependent, Small Group PBL, 9-14
9.15 Understand the Role of the Tutor, 9-15
9.16 Summary and Feedback, 9-15
9.17 References, 9-15
9.18 Exercises, 9-16

10. Putting it all together.

10.1 Be Flexible, Expect and Understand the Variations in Approach to PBL, 10-2
10.2 Embrace All the Skills, 10-3
10.3 Successfully Extend Your Skill, 10-3
10.4 Keep Communication Open, 10-4
10.5 De Patience, 10-4
10.6 Monitor and Give Each Other Frequent Feedback, 10-4
10.7 Understand the Role of the Tutor, 10-4
10.8 Enjoy, 10-5
10.9 References, 10-5
10.10 Exercises, 10-5
10.11 For More, 10-5

Appendix, A-1

Feedback forms,

Author Index, A-1

Annotated subject Index, A-1
G.2 Problem-based Learning: helping your students gain the most from PBL,

Table of contents

1. Why PBL? Improving learning and selecting a version of PBL that is suitable for you
   1.1 Principles to improve learning, 1-2
   1.2 Where PBL fits in, 1-3
   1.3 What to do in your situation: scaffolding, coaching, developing and assessing, 1-3
   1.4 More ideas on what to do for your situation: big class, small class, mixed or remote, groups, 1-4
   1.5 Does PBL work? Effectiveness of PBL, 1-4
   1.6 Summary, 1-7
   1.7 References, 1-7

2. On being a coach/facilitator
   2.1 Being a teacher in a tutor group, 2-2
   2.2 Being an instructor with tutor groups, 2-4
   2.3 Summary, 2-6
   2.4 References, 2-6

3. What about process skills used in PBL?
   3.1 Developing process skills for the tutor, for the students or for both, 3-2
   3.2 When to develop the process skills, 3-2
   3.3 Process skills as valued outcomes, 3-3
   3.4 Developing process skills, 3-3
   3.5 Summary, 3-9
   3.6 References, 3-9

4. Issues about setting up small group, self-directed, self-assessed PBL
   4.1 How to start, 4-2
   4.2 Minutes the timing, and the "meetings", 4-2
   4.3 Organise the student groups, 4-2
   4.4 Create the resources, 4-4
   4.5 Create the environments for learning the subject knowledge, 4-4
   4.6 Create the environments for the process skills, 4-4
   4.7 Create the environments to develop "expertise," 4-5
   4.8 Assess the student's performance, 4-5
   4.9 Evaluate the program's effectiveness, 4-7
   4.10 Your first class, 4-7
   4.11 Nice touches you can add, 4-8
   4.11 Summary, 4-8
   4.13 References, 4-8

5. Questions and answers about assessment
   5.1 Why is assessment important? Because students learn what is being assessed, 5-1
   5.2 Background issues about assessment, 5-2
   5.2.1 Validity and reliability, 5-2
   5.2.2 Test frequency and variety, 5-2
   5.2.3 Special considerations: degree of explicitness on the task and the process, 5-3
   5.2.4 Integrating the results, 5-3
   5.3 Some example "fair" options, 5-3
   5.4 How do I assess subject knowledge? 5-5
   5.5 How do I assess process skills? 5-6
   5.6 How does assessment link to objectives? 5-9
   5.7 How does assessment link to resources? 5-9
   5.8 On the role of evidence, 5-9
   5.9 Peer assessment? 5-9
   5.10 How to get student to assess each other instead of putting each other on the back? or putting all the others down so that they appear to be good?
   5.11 Can tutors assess student performance in groups of five to ten? 5-10
   5.12 Why assess the process skills? 5-10
   5.13 Assessing large classes, 5-11
   5.14 How do you integrate peer and self-assessment into the tutor's mark, 5-11
   5.15 Peer? self? or both? 5-12
   5.16 Summary, 5-14
   5.17 References, 5-14

6. How might I use the companion book HTGTM?
   6.1 Issues related to understanding PBL, 6-1
   6.2 Issues related to developing process skills, 6-2
   6.3 Assessment instruments to give feedback to the students, 6-4
   6.4 Summary, 6-4
   6.5 References, 6-4

7. Literature resources for PBL
   7.1 Books, 7-1
   7.2 Journals, 7-3
   7.3 Websites, 7-3
   7.4 Articles, 7-3
   7.5 Websites, 7-4

8. Table of contents of related books
   8.1 Problem-based Learning: how to gain the most from PBL, 8-1
   8.2 Problem-based Learning: resources to gain the most from PBL, 8-3

Postface: about the MPS program
  P.1 What is the MPS program? P.1
  P.2 How does the MPS program relate to PBL? P.1
  P.3 What we hope that the MPS and PBL approaches are effective? P.2
  P.4 Summary, P.4
  P.5 References, P.4

Author Index
Annotated Index
Author Index

The index includes the authors in both books "Problem-Based Learning: helping your students gain the most from PBL" (HYSGMT) and "Problem-based Learning: resources to gain the most from PBL" (Resources). Authors cited in the first book are given a numeric code, 3-4, for example; authors cited in the second book, Resources, are given by an alpha-numeric code, A-6. The authors listed in Chapter 7 in HYSGMT are not included in this index.

A
Albanese, M.A., 1-4, 1-7, 3-1, 3-10, 4-1, 4-4, 4-5, 4-8;
Allen, R.D., P-3, P-4;
Alverno College, 3-3, 3-8, 3-10, 4-4, 4-8, 6-3, 6-6, E-5, E-6;
Ambury, G.G., 4-7, 4-8;
Anderson, L., 1-3;
Arnold, J.D., 3-14, 3-16, 9-8, 9-13;
Ausubel, D.P., 7-6, 7-13;

B
Baker, E.L., 1-3, 1-7;
Barker, L.I., 1-7;
Barrows, H.S., 2-2, 2-4, 5-7, 5-14, 7-1;
Basadur, M., 3-5, 3-10, E-2, E-8, E-10;
Bertrand, D., E-5, E-10;
Biedenbach, J.M., 1-2, 1-7;
Biggs, J.B., E-5, E-10;
Billings, 3-4, 3-10, B-12, D-8, E-2, E-7, E-10, P-2, P-4;
Blake, R.L., 1-4, 1-8;
Blank, J.W., A-16;
Bloom, B.S., 5-1, 5-8, 5-14;
Bouchard, C.G.K., P-3, P-4;
Boud, D., 5-14, P-1, P-4, P-7;
Brandt, L., 1-5, 4-7, 4-8, 5-6, 5-16, E-5, E-10, F-45, F-46-51, F-63;
Brown, B., 5-14, 5-15;
Brown, G., 1-3, 1-7, 5-5, 5-13, 5-15, P-7;
Budner, S., E-3, E-10;
Burow, O.K., E-1;
Burrows, J., 5-15;

C
Cameron, K.S., D-15, E-3, E-11;
Case, S.M., 5-15;
Cegala, D.J., 1-7;
Chamberlain, J., 3-8, 3-10, 6-3, 6-4;
Chickering, A.W., 1-2, 1-6, B-5;
Christensen, C.A., E-10;
Ciliska, D., 5-14;
Clarke, R.M., E-10, E-11;
Coates, B., 5-15;
Coles, C., 2-1, 2-4;
Colvin, S.T., A-16, A-17;
Conrick, M., F-60;
Covey, S.R., 2-1, 2-4, 3-6, 3-10, D-13;
Cox, C., A-16, A-17, A-18;
Crebbin, W., 4-7, 4-8;

D
de Sanchez, M., E-10;
de Stephen, R., 5-10, 5-14;
Dodd, P., 5-14;
Doherty, A., 6-4, E-3, E-5, E-11;
Doig, J.D., F-54, F-55;
Dolmans, D.H.J.M., 2-1, 2-4, 4-1, 4-4, 4-8;
Doust, P., 4-7, 4-8;
Downing, S., 5-14;
Duncan-Hewitt, W., 1-4, 1-8, 3-8, 3-10, 4-5, 4-9, P-8;
Dunn, W.R., 5-14, A-8;

E
Edel, R.L., 5-14;
Edmondson, K.M., F-60;
Engel, C.E., 5-14;
Entwistle, N., E-5, E-10, E-11;
Eyles, C., 1-6, 1-7, 3-8, 3-10, 4-5, 4-8;

F
Facione, N.C., E-6;
Facione, P.A., E-6;
Felder, R.M., 1-2, 1-7;
Feletti, G.I., 5-14;
Ferrier, B., 5-14;
Fertitta, L., 4-7, 4-8;
Finkbeiner, C.T., 3-10, E-2, E-10;
Fitch, P., E-6;
Fritchie, R., B-31;

G
Gainen (Kurfiss), J., E-6;
Gamson, Z.F., 1-2, 1-6, B-5;
Garva-Gubbins, L., 5-4, 5-14;
Gibbs, G., 1-3, 1-7, B-50;
Gijzvelds, W.H., 4-8, P-7;
Al-2

Gledhill, R.F., E-5, E-10;
Gottman, J., B-24, B-25, B-28
Gowin, Boh., 5-14, D-11, F-59;
Greene, G.B., E-10;
Grayson, L.P., I-2, 1-7;
Guglielmo, I.M., E-5, E-10;

H

Hall, F., 1-6, 1-7, 3-8, 3-10, 4-5, 4-8;
Hagaman, R.N., A-16, A-17;
Harden, R.M., 5-14;
Harris, B-55;
Henry, N., 5-6, 5-14;
Herrman, P.P., D-13, E-2, E-7, E-10;
Herrenm, D., 4-5, 4-8;
Herstein, R.J., E-6, E-10;
Holmes, T.H., D-8;
Hrynau, A.N., 1-6, 1-7, 3-8, 3-10, 4-5, 4-8, 5-15;
Huang, R.L., 5-14;

I

Isaacs, P.J., E-10;

J

Jang, R., A-16, A-17;
Johannson, S., E-5, E-6, E-10;
Johnson, D.W., I-2, 1-7, C-11, C-14, E-10;
Johnson, J.A., E-10;
Johnson, F.P., I-2, 1-7, E-4, E-10;
Johnson, R.T., I-2, 1-7, E-4, E-10;
Jones, W.J., E-10;

K

Keller, F.S., 1-2, 1-7;
Kelly, V., 5-14;
Kepner, C.H., D-13;
Khan, S.B., 5-14;
Kibler, R.J., 1-2, 1-7;
Kimler, D.A., A-16;
Kimbell, R., 2-1, 2-4, 5-3, 5-6, 5-9, 5-14, B-55;
Kindler, H.S., E-4, E-10;
Kirton, M., 3-5, 3-10, D-10;
Knappe, Chris, E-5, E-10;
Knowles, M., 5-6, 5-14;
Knox, J.D.E., 5-14;
Kolb, D.A., D-10;
Koppert, N., A-8;
Kroc, R., E-11;
Kumur, L., E-2, E-10;

L

Larkin, J.H., D-11;
Lea, Mona, A-9;
Leenders, M.R., A-19;
Long, T.R., A-16;

M

Maatsch, J.L., 5-4, 5-14;
Mayer, R.F., 1-3, 1-7;
Marrin, M., 5-14;
Marshall, R.R., 5-15;
Massey, D.R., E-10;
Mathis, B-36;
Mayer, R.M., E-3, E-11;
McAuley, R., E-14;
McKnight, J., 5-6, 5-14;
Mealey, D.L., E-11;
Meiring, S., 1-3, 1-7;
Menkowski, M., E-3, E-5, E-11;
Miles, D.T., 1-7;
Mitchell, S., I-4, 1-7, 3-1, 3-10, 4-1, 4-4, 4-5, 4-8;
Moore, W.S., E-5;
Moos, R., 3-8, 3-10, B-12, D-8, E-2, E-7, E-11;
Murphy, L., E-1;

N

Nardi, A., A-16;
Neufeld, V.R., 5-4, 5-14, 5-15, 5-16, F-45;
Newble, D., E-11;
Nickerson, R.S., E-10;
Nist, S.L., E-3, E-5, E-11;
Norman, G.R., I-3, 1-7, 3-1, 3-10, 4-5, 4-9, 5-4, 5-15, 5-16;
Novak, J.D., I-2, 1-3, 1-7, 5-15, B-50, F-60;

O

Odi, L.F., E-2, E-11;
Osterman, D., 1-4, 1-5, A-1;

P

Painvin, C., 5-6, 5-15;
Patton, D., 5-14, 5-15, A-9;
Pawlak, S.M., A-16, A-17;
PED (Program for Educational Development) 5-4, 5-5, 5-6, 5-15;
Pendlebury, M., I-2, I-6, 5-4, 5-13, 5-15;
Perkins, D.N., I-3, 1-7, 3-8, 3-10;
Perry, W.G. Jr., I-4, 1-12, 8-1, B-10, D-19, E-5, E-9;
Petersen, C.H., E-10;
Piaget, J., E-6, E-9;
Pierce-Fenn, H., 5-15;
Ponting, A., A-16, A-17, A-18;
Pogham, W.J., I-3, 1-7;
Popovich, N.G., A-16, A-17, A-18;
Powles, P., 5-6, 5-14, 5-15;

R

Rahe, R.H., D-8;
Ramsden, P., I-2, 1-7, E-5, E-10, E-11;
Rankin, J., 5-14;
Raspberry, P., 5-14;
Regehr, G., 4-5, 4-8;
Reiser, R.A., 5-5, 5-15;
Renner, J., E-6;
Resnick, L.B., I-3, 1-8, P-1, P-7;
Rest, J., E-3, E-11;
Rideout, E., 5-14;
Roberts, Jackie, E-11;
Rothman, D.S., 5-15;
Rotter, J.B., 3-4, 3-10, D-13, E-3, E-11;
Rudd, D.F., A-19, A-21;
Russell, J.D., A-16;

S
Salomon, G., I-7, 3-8, 3-10;
Sample, J.A., E-10;
Samson, B-36
Sanchez, C.A., E-6;
Sandler, B., B-36;
Scandura, T.A., E-10;
Schmidt, H.G., I-3, I-7, 2-1, 2-4, 3-1, 3-10, 4-8;
Schoenfeld, A.H., 2-1, 2-5, 4-5, 4-8, B-17, B-22;
Schon, D., 2-1, 2-5, 3-3, 3-8, 3-10, 6-3, 6-6, B-55, C-20;
Seidman, J., 5-15;
Selye, H., 3-10, D-8;
Silverman, L., I-2, I-7;
Simpson, M.L., E-11;
Smith, J.E., A-16;
Smith, K.A., I-2, I-7, 5-14;
Solad, S.W., A-16, A-17;
Sowden, S., 5-15;
Sparks, R., 2-2, 2-6;
Specht, P.C., 4-7, 4-8;
Speedy, S.M., 5-16;
Stables, K., 2-4, 5-15;
Stafford, P., 5-16;
Stager, R.A., A-16;
Stefani, L.J., 5-10, 5-16;
Stone, H.L., 5-2, 5-16;
Streiner, D.L., 5-16;
Swanson, D.B., 5-4, 5-5, 5-6, 5-7, 5-10, 5-11, 5-16;
Sweeney, G., 5-15;
Swets, J.A., E-10;

T
Tamblyn, R.M., 2-2, 2-4, 5-6, 5-14;
Tannen, D., C-11;
Taylor, M., 3-7, 3-10, B-10, B-13, B-14;
Tobias, D.E., 5-15;
Tregoe, B.B., D-13

V
Van der Meer, S.B., 4-8;
Van der Merve, C.A., E-10;
Van der Vleuten, P.M., 5-4, 5-15;
Van Luyk, S.J., 5-15;
Vernon, D.T.A., I-4, I-8;

W
Wales, Charley, A-16, A-17;
Walker, L., 5-15;
Wakefield, J.G., 5-15;
Annotated Index

The index includes the topics in both books "Problem-based Learning: helping your students gain the most from PBL" (HYSGTM) and "Problem-based Learning: resources to gain the most from PBL" (Resources). Topics cited in the first book are given a numeric code, 3-4, for example; topics cited in the second book, Resources, are given by an alpha-numeric code, A-6.

- 20 min rule, and group norms, B-36;
- 5:2 strengths: areas to work on, use of, B-26, B-32, B-33, F-64;

A

- Abilities: general term used to describe "process skills" and attitudes we would like to see possessed by our graduates. (Sometimes referred to as "outcomes," "competencies" or "skills.")
  - example list, 3-1;
  - see "Process skills."

- Abuse of learning resources, by students,
  - and marks, 5-13;

- Accentuating the negative, MPS unit 47, P-5;

- Accommodate: one of five responses to conflict.
  - example, C-15;
  - data for this as preferred response, C-14;
  - use of in conflict workshop, C-11 ff.
  - timing sheets, C-12;
  - transparencies, C-13;
  - use of Johnson's inventory to suggest preference, C-14;
  - example activity, C-19;

- Accountability: student. Students are empowered with responsibility; how might we make them accountable to teachers and to peers?
  - and commitment to peers, B-38, B-39, B-40;
  - and empowerment,
    - importance, A-5;
    - transparency, B-40;
  - examples of students contracts, B-41;
  - and potential problems, D-23;
  - and visibility of actions, B-38, D-23;
  - setting up environment,
    - general, D-23;
    - through course outline, D-2;
    - through letter, D-24;
  - to others in group, B-38;

- Accuracy concern that a task is done correctly,
  - MPS unit 1, 3-4;
  - mini-workshop, B-21, B-23, C-20;
  - timing sheets, B-22;
  - transparencies, B-23;

- Achievable goals: and resources, C-7;

- Action column, for minutes, B-35;

- Actions versus results; ways of expressing goals, C-6, C-7;

- Active, the process of writing and recording ideas, making charts, creating diagrams, tables and lists so as to help overcome the limitations of STM. Emphasized in HTGTM, p. 3-4, and illustrated in mini-workshop, B-21;

- Active learning, where the learners participate in the learning task; contrast with passive where the learners listen to or watch someone talk about the subject. This element is common to most of the approaches given in all three books: HTGTM, HYSGTM and Resources.
  - as part of Osterman feedback-lecture method, A-1;
  - importance for learning, 1-2;

- Adelaide, University of, example materials, A-19 ff.

- ADLIMS, instrument for learning how to learn, E-5;

- Advantages of PBL contrast with "Disadvantages" of PBL see also Evaluation of PBL.
  - compare/contrast, 4-1;
  - general, 1-1 ff;
  - summary, 1-7;

- Adverse circumstances, events that will prevent us from succeeding.
  - use of contracts, B-39, B-41;
  - use of Kepner-Tregoe technique, and time management, D-13;

- Agenda, for meeting, and group norms, B-36;

- Algorithm, set of rules for calculating something. Contrast with "exercise" and "problem."

- Alumni response, to MPS program, P-3;
  - to self-assessment, B-55;

- Alverno College, cited, 3-4;

- Ambiguity, instrument to measure tolerance for, E-3;

- Analysis, convergent thinking activity in which one a) classifies, b) recognizes patterns or sequences, c) checks for consistency and d) reasons and draws valid conclusions.
  - MPS unit 6, P-5;
  - MPS unit 13, P-5;
  - MPS unit 21, P-5;
  - MPS unit 30, P-5, see also Critical thinking.

- Anger
  - and change, B-12, B-13, B-14;
  - and conflict, C-11;
  - and self-talk, C-21;
  - as element in interpersonal skills, P-6;

- Anxiety and change: fearful and distressful emotions and feelings. Characteristic of change.
  - and coping with change:
    - description of workshop, MPS 49, 3-7;
    - objectives and assessment, D-21;
    - timing sheets and transparencies, B-10;
- transparencies, B-12, B-13;
- and stress management,
  - description of workshop, MPS 3, 3-4;
  - objectives and assessment, D-8;
  - transparency, B-12, B-13;
- APA, method to obtain criteria, cited, D-14;
- Articles, information about PBL, listing of, 7-3;
- Attendance, and group norms, B-37;
- and contracts, B-41;
- Asking group members to leave, group norms, B-37;
- Asking questions,
  - how to, as tutor, 2-2;
  - MPS unit 20, P-5;
- Assertiveness, MPS unit 44, P-5;
- as element in interpersonal skills, P-6;
- Assessment: the making of a judgement; the process of determining if a goal has been achieved. This word is often used interchangeably with "evaluation". In this book assessment means the process applied to the performance of individuals or groups whereas "Evaluation" refers to the application of process to "programs and institutions". Thus, I assess Terry's performance. I evaluate the effectiveness of the MPS program. (related terms for the process "Evaluation" and "Marks", "Grades" as outputs of the process). Related terms include Goals, Criteria, Evidence, Self-assessment, Peer assessment, MPS unit 3.
  - and Bloom's taxonomy, 5-1, 5-8;
  - and building student's confidence in, 4-4;
  - and cheating, 5-13;
  - and competitiveness, 5-13;
  - and content, need for, 5-2, 5-3;
  - and course description, D-2;
  - and criteria, need to create, 5-2;
  - and defacing resource materials, 5-13;
  - and evidence, 5-2, 5-9, B-53 ff;
  - example, Ex. 5-4, 5-9;
  - and goals and objectives, 5-9;
  - need to identify, 5-2;
  - example to illustrate, 5-3;
  - and hoarding resource materials, 5-13;
  - and interview, Example 5-5, 5-11;
  - and journal writing, Example 5-6, 5-11;
  - and learning, 5-1;
  - and resources, 5-2, 5-9, C-7;
  - as goal of the course, 5-10;
  - as a process,
    - training in, 5-10;
    - workshop, MPS 3, self-assessment,
      - as part of MPS program, P-5;
      - description, 3-4;
      - details, B-48 ff;
      - timing sheets, B-49;
      - transparencies, B-50;
- Bloom's taxonomy level, 5-1;
  - example, Ex. 5-2, 5-8;
  - checklist, 5-2;
  - components in,
    - Alverno's list, 5-2;
  - contracting weighting of different types of evidence, 5-12;
    - Example, 5-12;
  - criteria-referenced interpretation, 5-3;
  - example,
    - course description, D-2;
  - examination, F-1;
  - frustration because the focus is not on evidence, Ex. 5-4, 5-9;
  - interview, Ex. 5-5, 5-11;
  - process versus product, Ex. 5-3, 5-8;
  - test questions, Ex. 5-2, 5-8, F-1;
- form for assessing reflective journals, A-15, F-65;
  - for assessing PBEE, F-52;
  - for assessing process skills, see Feedback forms.
  - for assessing self-directed learning reports, F-65;
  - frequency of, 5-2;
  - how to improve, mini-workshop, B-48;
    - timing sheets, B-49;
    - transparencies, B-50;
  - importance of,
    - for motivation, 5-1;
    - transparency, B-50;
  - interpreting the tests, 5-3;
    - norm-referenced, 5-3;
    - criteria-referenced, 5-3;
  - issues in, list of, 5-2;
  - large classes, 5-11;
    - PBEE example, F-45 ff;
      - via structured writing, forms A-14;
      - via structured feedback forms, A-15, F-52;
  - learn what we assess, 5-1;
  - marks option versus pass/fail, 5-13;
    - options for using marks, 5-13;
  - mini-workshop to develop skill in, B-48 ff;
    - timing sheets and transparencies, B-49 ff;
  - misconceptions about, B-50;
  - norm-referenced interpretation, 5-3;
  - pass/fail option, 5-13;
  - peer assessment, 5-9 ff;
    - and final mark; data, 5-11, 5-13;
    - as evidence for self-assessment, 5-13;
    - environment, 5-10;
    - training, 5-10;
    - compared with tutor's assessment, 5-10, 5-13;
    - for large classes, 5-11;
  - of individual performance in a group, 5-10;
  - of process skills, 5-8;
    - example questions, D-4 ff;
    - example exam, F-1;
    - why? 5-10;
  - of subject knowledge, 5-3;
    - and Bloom's taxonomy, 5-8;
    - of peer teaching subject knowledge, B-38, B-42 ff;
  - options, list of, Table, 5-4, E-1;
    - via Brand's PBEE, 1-6, 5-6, F-45;
    - via concept maps, 5-7, F-60;
    - via contracts, 5-6;
    - via essays, 5-5;
    - via interrupted process, 5-5;
    - via learning contract, 5-6;
    - via Modified essay question, 5-5;
    - via multiple choice questions, 5-4;
    - via observation, with feedback forms, 5-4; see also Feedback forms.
    - via oral exam, 5-4
    - via OSCE, 5-6;
    - via PBEE, 1-6, 5-6, F-45;
- via portable patient problem pack, P4, 5-7;
- via rating scale, 5-4;
- via short answer, 5-4;
- via simulations, 5-7, F-53;
- via storyboards, 5-6;
- via Triple Jump, 5-6, F-45;
- via tutor, 5-6, 5-10;
- via word-completion test, 5-4;
- ownership of and impact on learning, 1-3;
- transparency, B-50;
- reliability, 5-2;
  - of peer assessment, how to, 5-9;
  - data, 5-10, 5-13;
  - of self-assessment, how to, 5-10, 5-11;
  - data, 5-10, 5-13;
- selecting good questions,
  - example, Francine, 5-3;
- self-assessment, see Self-assessment.
  - and final mark, 5-11;
  - data, 5-13;
  - with peer assessment as evidence, 5-12;
  - comparison with tutor’s, 5-10, 5-13;
  - example, Ex. 5-5, 5-11;
  - instruments to assess skill, E-4;
  - results from MPS program, P-3;
- "tightness" or explicitness of instructions, 5-3
- tutor’s assessment, compared with
  - peer assessment, 5-10;
  - self-assessment, 5-10, 5-12;
- validity of, 5-2;
  - of peer assessment, how to, 5-9;
  - data, 5-10;
  - of self-assessment, how to, 5-10;
  - data, 5-12;
- weightings of different assessments, 5-11;
Assessor: person responsible for assessing.
  - number needed, for groups, 5-10;
  - peers as, 5-9;
  - self as, 5-10;
  - training of, 5-10, B-48; see MPS 3.
  - tutor as, 5-11;
Attendance, lack of student.
  - coping with, D-23, D-24;
Attending, as in listening, MPS unit 26, P-5;
  - as element in interpersonal skills, P-6;
Attitude, emotions and feelings.
  - instrument to evaluate, E-5;
  - toward the learning process, E-5;
  - toward critical thinking, CCTDI, E-6;
  - toward problem solving, Heppner, E-2;
Avoid, as strategy in conflict, see Withdraw.
Awareness: being able to describe; to make the implicit explicit.
  - assessment, examples of, of, D-4;
  - developing awareness, see MPS Unit 1.
  - developing tutor skill, 2-2;
  - how to improve, activity to increase, 3-4, B-16;
  - objectives, list of, D-4;
  - importance of in problem solving, 3-4;
  - workshop, C-20;
Barriers to implementing PBL, something that prevents.
  - class size, options to overcome this as an issue, 1-6;
  - inability to assess “soft skills”, options to overcome this as an issue, 3-8;
  - examples, D-2 ff., F-2 ff.;
  - lack of resources, options to overcome this as an issue, 1-6;
  - new role as coach, 2-1 ff.;
Barriers to solving problems, how to overcome, workshop unit 10
in the MPS program, P-5;
Basadur’s Ideation instrument,
  - availability, E-2;
  - description, E-2;
  - example data, E-8;
  - use, E-2;
Beeble diagram, see Concept map.
Benchmarking, establishing a standard.
  - data for various evaluation instruments, E-7;
Billings, A.G., and R.H. Meos, instrument;
  - and stress management, D-8;
  - and change, D-21;
  - availability, E-2;
  - data, E-7;
  - description, E-2;
  - evaluation of the MPS program, P-2;
  - in change workshop, B-11, B-12;
Biochemistry, example problem, F-48;
  - example principles, F-47;
Bloom’s taxonomy: fancy name for the structured levels of development for the “cognitive” or “thinking” domain.
  - brief illustration, 5-8;
  - use to select test questions, 5-8;
Body language, and listening.
  - as part of interpersonal skills, P-6;
  - MPS unit 26, P-5;
Book: "ITGTM",.
  - and a description of successive development of process skills, 3-3, 3-8;
  - listing, 3-2;
  - and details about assessment, 4-7, 5-2;
  - and MPS workshops, 3-4 ff;
  - and workshops on:
    - awareness and monitoring, C-20;
    - goal setting, C-1;
    - group skills, B-30;
    - interpersonal skills, B-24;
    - issue identification, C-1
    - managing change, B-10;
    - problem solving skill, B-16, B-21;
    - self-assessment, B-48;
    - self-directed learning skills, B-47;
    - self-talk, C-21;
    - understanding PBL, B-1, B-5;
    - as a source of different forms of PBL, 1-2;
    - as a source of different feedback forms, 3-3, F-63;
    - details, A-12;
    - as a recommended book, 6-1, 6-3;
    - as a required text with informal follow-up, 6-3;
    - as a required text for pre-PBL workshops, 6-4;
    - as a required text for mini-workshops, 6-4;
    - cited use as part of week-long workshop, 6-5;
    - key use:
      - to help students understand PBL, 6-1;
- to help them cope with change, 6-3;
- Table of Contents of, 8-1, G-1;
- use of it, general, 6-1;
- specific relationship to learning options, 1-6;
- use as model of process for PBL, 6-1;
Book: "IVSGTM"
- Table of Contents, G-3;
Book: "Resources"
- Table of Contents, 8-3;
Book resources for PBL, 7-1;
Brainstorming, popular name for the process for being creative or thinking up many ideas, issues, hypotheses or options. see Creativity.
Branda’s triple jump, see PIEEE.
Bridging process skills: second of three-stage skill development process, done in a carefully structured subject domain, see also Transfer.
- description, 3-3, 3-8;
- example materials, A-5 to A-10;
Broadening perspectives, MPS unit 22, P-5;
- to see context, example, C-5;
Building process skills: first of three-stage skill development process, done in a context independent environment, see also Transfer.
- description, 3-3;
Business school case study,
- as example of PBL, 1-1;
- comparison with medical school use of PBL, A-20;
Buy-in, getting a, see Getting support

C

California critical thinking skills test (CCTST), instrument, E-6;
Carefulness, paying attention and concern for correctness.
- MPS unit 1, 3-4;
- mini-workshop, B-16;
- timing sheets, B-17;
- transparencies, B-18;
Case study, example of a PBL approach, 1-1;
Cattell and Cattell, instrument, E-6;
CCTDI instrument, E-6;
CCTST instrument, E-6;
CEQ instrument to evaluate the learning environment, E-5;
- data for MPS program, P-2;
- data, E-8;
CGF, instrument, E-2;
Chairperson: facilitator for a group. Contrast with “leader,” B-33;
- as unit 29 in the MPS program, P-5;
- assessment of skill, D-17;
- and group norms, B-35;
- feedback form for, F-63, F-64;
- how to develop skill as, see MPS Unit 29.
- instruments to evaluate, E-4;
- objectives for skill development, D-17;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- versus no chairperson, B-35;
Challenges to (difficulties) what does not seem to work or be effective:
- the development of process skills, list, 1-2, 3-3, B-4;
- the implementation of PBL: trying to do too much too soon, not helping the students adjust to the change, assuming that you don’t have to pay attention to the process skills, failing to be explicit about assessment, the tutor assuming the role of a "lecturer". (Suggestions on how to counteract these are given in Chapter 4 and Chapter B.)
Change, how you cope when a change is thrust upon you.
- assessment of ability to cope with, D-21;
- example topics and MPS program, P-5;
- how to improve how you cope with, see MPS Unit 49.
- mini-workshop in, B-10;
- timing sheets, B-11;
- transparencies, B-12;
- objectives for development of, D-21;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- Taylor’s chart of process, B-14;
- use of HTGTM, to help students, 6-2;
- typical student response, 6-3;
Change, being a change agent, MPS unit 50, P-5;
Change, managing change, MPS unit 51, P-5;
Change (effectiveness of a)
- in evaluation data because of MPS program, E-7 ff, P-2 ff.;
Cheating, options to minimize, 5-13;
Chemical Engineering, see Engineering.
Chemistry (surface chemistry)
- DA-E Socratic facilitation:
  - for surface concentration, A-24;
  - sample Osterman feedback lecture, A-2, A-3;
Class size,
- and options for learning, 1-4;
- table of options, 1-6;
Coach, tutor as, 2-1, 2-3, 2-4;
Collaborate: one of five responses to conflict. (Synonym: problem solve, negotiate, persuade.) see also Cooperation.
- example, C-15;
- data for this as preferred response, C-14;
- use of in conflict workshop, C-11 ff.
- use of Johnson’s inventory to suggest preference, C-14;
- example activity, C-19;
Collaborative learning: see Cooperative learning.
Collect samples solutions, student propensity to,
- approach to learning, 4-1;
- how to combat, 4-5;
Commitment charting: explicitly noting the priority and time you will dedicate to a given task.
- example in change workshop, B-15;
- use in selecting group members, 4-2, B-1;
Communication, sharing of information between two people. see Listening and responding, conflict, interpersonal skills.
- MPS unit 48, P-5;
Competencies: general term used to describe "process skills" and attitudes we would like to see possessed by our graduates. (Sometimes referred to as "outcomes," "competencies" or "skills.") see "Process skills."
Competitive learning, students compete against each other for success.
- and defacing, hoarding, cheating, 5-13;
- bringing out the worst in students, 5-13;
- ideas to overcome, 5-13;
Compromise: one of five responses to conflict.
- example, C-15;
- data for this as preferred response, C-14;
- use of in conflict workshop, C-11 ff.
- use of Johnson’s inventory to suggest preference, C-14;
- example activity, C-19;
Concept map: a visual display of the links among bits of information; a drawing illustrating the organizational hierarchy and links among concepts and knowledge.
- use of, in learning, D-11;
- use of to assess knowledge, S-7, F-60;
- examples, F-61, F-62;
- assessment criteria of, F-60;

Conditions: general term describing the constraints, criteria, resources and environment in which we are solving a problem, defining a problem, learning, or doing an activity. (related terms Constraints, Resources and Environment).
- that promote learning, 1-2;
- measurement of, E-5;
- data, E-8;
- for MPS program, P-2;

Conditions, performance, and assessment, 5-2;

Confidence: see Self-confidence.

Conflict: disagreements; see MPS Units, MPS 45.
- and group norms, B-36;
- assessment of skill in coping with, D-20;
- as an opportunity to build trust, C-13;
- criteria to select a response, D-20, C-14;
- example workshop activity, C-19;
- extensions into "difficult behaviours", C-18;
- group norms for intervention about conflict, B-36;
- importance of creating policies on how to deal with, 4-4;
- for group norms, B-36;
- mini-workshop to develop skills in coping with, C-11;
- timing sheets, C-12;
- transparencies, C-13;
- objectives to develop skill, D-20;
- preferred way of dealing with,
  - Johnson's inventory to measure, C-14, E-3;
  - data, C-14;
- responses to conflict that damage relationships, Gottman, B-24, B-28;

Consolidate meeting,
- and defacing resources, 4-8;
- description and timing, 4-3;
- rationale, 4-8;

Constraint: a restriction, a condition that limits.
- class size seen as a constraint on us,
  - in how we teach, 1-6;
  - in how we assess, 5-11;

Conflict: one of four major responses to conflict that damage a relationship.
- as damaging to a relationship, B-24, B-28;

Content, subject: see also Knowledge.

Contracts, agreements
- for assessment, 5-12;
  - example, 5-12;
- for attendance, B-37, D-24;
- for group norms, B-37;
- for learning,
  - examples, B-41;

Convergent thinking, a process by which a best choice is made.
Related terms include analysis, decision-making and critical thinking.

Convincing others, see Getting support for your approach.
- MPS unit 57, P-5;

Cooperation,
- as opposed to competition, for learning, 1-2;
- use of Consolidate meeting to overcome competitiveness, 5-14, 4-8;

Cooperative learning, when students work together to learn. This is a vital part to small group, interdependent learning. Contrast with competitive learning. (Contrast with competitive and independent learning.)
- as an option to nibble, 1-5;
- importance of, to improve learning, 1-2;
- mini-workshop on key elements, B-38 ff.
  - timing sheets and transparencies, B-39;

Coping with ambiguity, see Ambiguity.
Coping with change, see Change.
Coping with conflict, see Conflict.
Coping with stress, see Stress management.

Correlation coefficient of reliability,
- as a measure of assessment reliability, 5-2;

Course description (calendar copy, course outline)
- and process skills, 3-8;
- example, D-2;

Course perceptions questionnaire, see CPQ.
"Cover" subject material. An attitude that an instructor's role is to "cover" material rather than to "uncover" material.
- how to handle, 4-2;
- less material in PBL program, 3-1, 4-1;

CPQ instrument to evaluate the learning environment, E-5;
- data, E-8;
- data for MPS program evaluation, P-2;

Creating your own problems, tactic to develop expertise and to provide feedback about learning.
- as part of the MPS program, P-5;
- description, MPS 14, 3-6;
- objectives and assessment, D-12;
- to develop expertise, Elaborate meeting, 4-3, 4-5;
- to develop problem solving skills, P-6;
- to provide feedback, Feedback meeting, 4-3;

Creativity: the ability to think up many ideas. (see also Brainstorm.)
- and group norms, B-35;
- assessment, examples of, of, D-9;
- as part of the MPS program, P-5;
- how to improve, see MPS Unit 7.
- objectives for skill, D-9;
- to develop problem solving skill, P-6;
- workshop to develop, see MPS 7;

Criteria: measure used to determine acceptability or value.
- and selecting PBL as a learning environment,
  - use principles of learning, 1-2;
  - class size, 1-6;
  - your personal comfort with PBL, 1-3;
- assessment, examples of, of, D-14;
- as part of the MPS program, MPS unit 23, P-5;
- example:
  - for goals, C-10;
  - for selecting group membership, 4-2;
  - use for conflict, C-14;
  - how to develop, see MPS Unit 23.
  - objectives for skill, D-14;
  - matching with goals, C-4, C-8;
  - with resources, C-4, C-8;
  - who creates? for assessment, 5-8;
  - workshop, B-52, C-8, C-10;

Criteria-referenced interpretation of marks: relative to an explicit standard.
- discussion, 5-3;
- Table of options, 1-5;

Devil's advocate-Engineer, socratic style conversation that leads students through the process,
- example, A-25;
- use of, A-19;

DEW preference for representing and thinking about knowledge as
- use, D-10;

Diad activity, see also TAPPS.
- and saying NO!, C-21;
- and group skills, B-31;
- and problem solving skills, B-17, B-22;
- use of, B-1, B-5, B-9;

Diagnostic skills,
- use of activity to assess, F-53;

Difficult behaviours:
- and coping with conflict, C-15;
- as extension of how to cope with conflict, C-18;

Difficulties, anticipating student difficulties with group process and PBL,
- and conflict, D-20;
- and group norms, B-35;
- changing groups, B-37;
- chart of how to, D-23;
- need to, 4-4;

Discovery form, a method of summarizing.
- use in journal writing, examples, F-3, F-21, F-31;
- use to close-out workshops, B-15, B-20, B-55, C-18;

Dishonesty, see cheating.
"Do it" the actual performance of a task, execution of the plan. The
4th stage in the MPS 6-stage process, B-19;

Duration of meeting, see Time.

E

Effectiveness of PBL, see also Evaluation of PBL.
- areas to improve on, 1-4, 4-1;
- as part of the MPS program, P-2;
- evidence for, B-54;
- summary ideas, 1-4;

Elaborate meeting, see also MPS Unit 14.
- description of objectives and assessment, D-12;
- description and timing, 4-3;
- rationales, 4-7;
- use of, for assessment, 5-10;
- use to develop expertise, 4-7;

Elaboration, extending and elaborating on an experience to see the
diversity of application.
- and creating the look back, 3-6;
- assessment, D-12;
- importance of, to develop expertise, 4-7;
- objectives, D-12;
- use to develop expertise, 4-7;
- via the elaborate meeting, 4-3;
- workshop to develop skill as unit 14 in the MPS program, P-5;

E-mail bulletin boards, Newsgroups: information about PBL, 7-3;
Emergencies, norms for handling, in the context of group work, B-37;
- example contract, B-41;

Empowerment, transfer of power to another. related term
Accountability.
- and accountability, transparency, B-40, B-41;
- examples of students contracts, B-41;
- need for student empowerment for tutorless groups, 2-4;
- of students "as tutors," 6-4;
- students with process skills, 6-4 and see Process skills.

Emotions and feelings, see "Attitude" and "Morale."

Emotional issues brought to the group, norms on how to handle, B-37;
Engage. the name of the first of three stages in defining the problem or setting goals.
- relationship with other two stages, C-3, B-18;

Engineering:
- and the MPS program in Chemical Engineering, P-1;
- cited, 3-3;
- DA-E socratic facilitation:
  - for sulfuric acid, A-24;
  - for surface concentration, A-25;
- implementation of the MPS program, 3-2, P-1;
- sample activity for strategy, A-7, A-10;
- sample Osterman feedback lecture, A-2, A-3;
- trouble shooting, F-53;

Enrich, add a bit more to what you are doing already, 1-3;
- Table of options, 1-5;

Environment,
- creating environment:
  - for accountability and difficulties, D-23;
  - for group culture, norms, B-35;
  - for learning, 1-2;
  - evaluation of, CEQ, E-5;
  - data, E-8;
  - for valid peer assessment, 5-10;
  - for valid self-assessment, 5-10;
  - for subject knowledge, 4-4;
  - to develop process skills, 4-4;
  - to develop expertise, 4-5;
  - to handle assessment, 4-7;
- how we create, via course outline, how we assess and clarify in conditions, 4-5;
- measure of learning environment, E-5;
- example data, E-8;

Essays:
- as test option, 5-5;

Essays, modified:
- as test option, 5-5;

Evaluation The process of determining if a goal has been achieved. This word is often used interchangeably with "assessment". In this book, assessment means the process applied to performance of individuals or groups whereas "evaluation" refers to the application of process to "programs and institutions". Thus, I assess Terry's performance: I evaluate the effectiveness of the MPS program. (related terms for the process "Evaluation" and "Marks", "Grades" as outputs of the process).
- of your PBL program, need to arrange at the start, 4-7;
- of the PBL portion of the MPS program, P-3;
- of the MPS program, P-2;
- process, 4-7;
- example instruments, E-1 ff.

Evaluation of PBL as a learning environment
- general description of results, 1-6, 4-1;
- results for part of the MPS program, P-3;

Evidence, concrete information, acts, projects that are used to demonstrate accomplishment or establish "truth". Observable documentation of behaviour.
- and assessment,
- need to create, 5-9, B-53 ff.;
- need for variety of, 5-9;
- example journal writing,
  - B-55, F-5, F-11, F-29, F-40;
- forms of evidence: see also Feedback forms.
  - list of options, 5-4 ff.;
  - peer assessment, 5-12;
  - journals, 5-12;
- need for, to show that learning goals have been achieved, 5-9, D-23;
- peer assessment as, 5-12;

Examination, see also TAPS.
- as part of the Feedback meeting, 4-3;
- data from, compared with peer and self-assessment, 5-13;
- example, F-1, D-4 ff;
- of process skills in MPS program, P-1, P-3;
- posing questions, 5-5, 5-8;

"Exercises": an "apparent problem" where, although the specific outcome is not immediately known, the process to obtain an answer can be recalled and applied relatively easily. Contrast with "Problem".
- and working forwards, 4-5;
- decide by pattern matching, 4-5;
- collection of, as tactic for "learning", 4-1;
- contrast with "problem", 4-5;
- converting "problems" to exercises, D-12;
- description, 4-5;
- estimates of encounters with, for Md, 4-5;
- shifting problems to exercises, 4-5;

Expectations, helping students
- understand your expectations, 6-3;
- clarify their attitudes, 6-3;

Experience knowledge, memorized "average" or "usual" numbers that give us concrete information about subject knowledge. (called Tacit knowledge by some authors)
- examples in journals, F-37;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- workshop to develop skill as unit 39 in the MPS program, P-5;

Explicitness,
- as a means of coping with student difficulties, D-23;
- of instructions:
  - effect on assessment, 5-3;
  - need for explicitness in training in process skills, 1-4, 3-1;
  - making implicit explicit, need to for accountability, 4-4, B-40, D-23;
  - use of feedback forms, 4-4, A-11 ff.;

Explore: the third of the three-stage activity of Defining problems or Setting Goals.
- relationship to other stages, B-16, B-18, C-3;
- workshop to develop skill as unit 15 in the MPS program, P-5;

Extending process skills: the third of the three-stage skill development process, done in subject-rich domain,
- description, 3-3, 3-8;

Extend, range of problems that can be solved from one experience, see also Elaborate.
- as tactic to develop expertise, 4-5 and 4-7;
- workshop to develop skill as unit 14 in the MPS program, P-5;

Extend, further enrich an existing PBL program, 1-3;
Facilitator, teacher as
- facilitating presence, 1-1;
- role described, 2-1;
- Socratic facilitator, 1-1;
  - example, A-19 ff;
Feedback to the tutor about the teaching-learning atmosphere and effectiveness.
  - suggestions, D-23; see also Ombudspeople.
Feedback: the product of an Assessment whose purpose is to develop confidence and help a person to improve. Contrast with Criticism or Judgement.
  - as a means to move toward PBL,
    - tabular list of use, A-12, 1-6;
    - giving and receiving feedback, workshop to develop, MPS unit 43, P-5;
  - as element in interpersonal skills, P-6;
  - importance of
    - prompt, for learning, 1-3;
    - for growth, 3-1, 4-4;
Feedback forms: the product of an Assessment whose purpose is to develop confidence and help a person to improve. see also Forms.
  - as evidence, A-11;
  - assessing, A-13;
  - how to train students in use of, A-11;
  - importance of, 6-3;
  - need to use to overcome difficulties, 4-4;
  - optional levels of monitoring/reflecting via feedback forms, A-12;
  - to facilitate feedback about:
    - assessment, A-12;
    - chairperson skills, A-12, F-63;
    - change management, A-12;
    - critical instant (trouble-shooting/clinical) skills, F-57;
    - group process, B-32;
    - group skill, A-12, B-33, B-33;
      - example, F-25;
    - interpersonal skills, B-26;
    - journals, F-65;
    - knowledge structure, A-12;
    - problem solving skill, A-12;
    - process skills, 4-4, A-12;
    - self-assessment, A-12;
    - self-directed interdependent learning, A-12;
    - stress management, A-12;
    - teams, A-12;
    - team effectiveness, A-12;
    - trouble-shooting, F-57;
  - use of, to develop skill, 6-3, A-11;
  - use of 5.2 pattern, B-23, B-26, B-32, B-33;
  - use to get accountability in SDL, B-47;
Feedback meeting, description, 4-3;
  - duration, 4-3;
  - use of, for assessment, 5-10;
Feelings and emotions, see “Attitude” or “Morale” (in the context of group behaviour).
FIRO-B, Schutz’s instrument to give us information about our behaviour in a group.
  - as enrichment for group skills, B-30;
  - cited, 4-7;
  - use, D-16;
  - use for group norms, B-36;

Force, one of five responses to conflict.
  - example, C-15;
  - data for this as preferred response, C-14;
  - use of in conflict workshop, C-11 ff.
  - use of Johnson’s inventory to suggest preference, C-14;

Force-field diagram: diagram to juxtapose competing forces that influence your actions.
  - example in change workshop, B-15;
  - use for change, B-10;
  - use for clarifying issues, 6-3;
  - use for resolving conflicts, D-23;

Formative assessment, done during the task or training. Example “term work”.
  - explanation, 5-2;

Forms: standardized layout for a purpose.
  - for feedback to supply evidence, see Feedback forms.
  - for performing a task, F-62; with examples for:
    - completing the PBE, F-51;
    - solving problem:
      - Guided design template, A-16;
      - MPS strategy board, B-19;
      - SOAP, F-63, A-21;
      - writing a journal, A-14;
  - for marking, F-63; with examples for:
    - marking journals, A-15;
      - in self-directed learning, F-65;
      - in trouble shooting, F-65;
      - marking PBE, F-52;
  - as a means of assessment,
    - use of, A-13;
    - how to create, 5-11;
  - for feedback about:
    - assessment, [HTGMT 9-10];
    - brainstorming, [HTGMT 3-15];
    - chairperson skills, F-64;
    - commitment, A-15, [HTGMT 1-12];
    - group skills, B-32, B-33, F-25 [HTGMT 5-7];
    - interdependent learning skill, [HTGMT 7-15];
    - interpersonal skills, B-26, F-17;
    - problem solving, B-23, [HTGMT 3-21];
    - stress management, [HTGMT 1-9];
    - teams and team building, [HTGMT 5-17];
    - trouble-shooting skills, F-57

G

Gantt chart, use of in time management, D-13;
Geography, course examination, F-1;
Getting support for your approach. (Convincing others, getting a buy-in)
  - from students, via 4-1, B-1;
    - by change management, B-10;
    - by testimonials from alumni, B-1;
  - from Deans and Chairs, D-23;
  - workshop to develop skill as unit 57 in the MPS program, P-5;

Getting started, see Starting.

Goals: general term for what you want to achieve. (Sometimes referred to as an “outcome.”) See also related term “Define the
Problem*. 
- action versus results, C-7;
- and assessment,
  - need to create, 5-2, 5-3;
  - example, 5-8;
  - of skill in setting, example, D-18;
- 7 characteristics of, C-4;
- checking that the student’s goals are consistent with your goals, 4-4;
- creating them as large class via Socratic facilitation, A-21 ff.;
- example, for process skills, MPS Units, D-3 ff;
- how to create, 4-4;
  - as units 3, 5, 9, 15, 31, 41 and 54 in the MPS program, P-5;
  - as part of MPS unit 3, 3-4; B-48;
  - how to make them unambiguous and observable, B-51, C-1 ff.;
  - Joe’s goals, activity, C-10;
- objectives for skill in setting, D-18;
- how to identify:
  - mini-workshop, C-1, B-48;
  - timing sheets, C-2, B-49;
  - transparencies, C-3, B-50;
  - real goal in a situation, C-1;
  - by use of triggers, C-4;
  - importance of having, C-3;
  - and time available, C-1;
  - observable, C-4, B-51, B-52;
  - worksheet, C-10;
  - results versus actions, C-7;
  - worksheet, C-9;
- workshops to develop skill in creating goals as units 31, 41 and 51 in the MPS program, P-5;
- workshops to develop skill in selecting goals as units 5, 9, 15 and 31 in the MPS program, P-5;

Goals, learning, or Learning Objectives.
- and assessment, 5-9;
- and self-assessment, B-51;
- ability of students to independently generate, 4-1;
- how to create, mini-workshop, C-1 ff, B-51 ff; 
  - as large class via Socratic facilitation, A-21 ff.;
  - importance of explicit goals, 5-3;
  - need for tutor to monitor, 4-4, 5-9;
  - need to develop for process skills, 3-3, 3-8;
  - examples, D-3 ff.
- options for monitoring group’s choice of, 4-4;
- seven characteristics, C-4;

Goals meeting, meeting when students set learning goals.
- details, 4-3;
- for large class, via Socratic facilitation:
  - Cleary’s approach, A-21, A-23;
  - Hansen’s approach, A-21, A-22;

Gowin veed, a technique for learning and seeing context.
- use in learning, D-11.

Grades or marks: explicit reward for performance traditionally as output from an assessment in school or educational contexts. see also Assessment.
- comparison of grades from exam, tutor, peer and self, 5-13;
- contracting for final grade, example, 5-12;
- feedback forms to facilitating grading, F-63; with examples for:
  - marking journals, A-15;
- in self-directed learning, F-65;
- in trouble shooting, F-65;
- marking PBEE, F-52;
- from peers, 5-9;
- from self-assessment, 5-10;
- from tutor, 5-11;
- Grades or Pass/fail? 5-13;
- used to select group membership, 4-2;

Graduate students, teaching, 1-2;

Grieving: a process for coping with change.
- example of, B-12;
- how to work your way through, B-12;
- use of model in change workshop, B-10;
- visual of, B-12;
- workshop on, B-10 ff; 
  - timing sheets, B-11;
  - transparencies, B-12;

Groups, working in, see also Group skills
- changing membership, B-37;
- norms for working in, B-35,
  - agenda for, B-36;
  - brainstorming, B-35;
  - chairperson, B-35;
  - decision-making, B-35;
  - emotional issues, B-37;
  - membership, B-37;
  - minutes of, B-35;
  - problem-solving terminology, B-35;
  - resources needed for, B-35;
  - roles, B-35;
  - time, B-36;
- membership,
  - asking one to leave, group norms, B-37;
  - selecting, 4-2;
  - roles, listing of, 3-6, B-35;
  - selecting size, 4-2;
  - selecting membership, 4-2;
  - tutored, 1-4, 2-2;
  - tutorless, 1-4, 2-4;

Group, small:
- life of group, 4-4;
- selecting membership, 4-2;
- typical size, 4-2;

Group skills (interpersonal skills) see MPS Units, MPS 27-28.
- as a process skill to learn, 1-2, 3-1, 3-2;
- assessment, D-16;
- as unit 27-28 in the MPS program, P-5;
- ease in development, 3-9;
- example journal for, F-20;
- example topics and MPS program, P-6;
- how to develop, see MPS Unit 27-28.
- instruments to evaluate, E-4;
- issues for effective small group:
  - attendance, 3-8;
  - conflict, 3-8;
  - free riders, 3-8;
  - norms for other issues, B-35;
  - mini-workshop, B-30;
  - timing sheets, B-31;
  - transparencies, B-33;
  - objectives, D-16;
  - optional levels of monitoring/reflecting via feedback forms, A-
l-10

- overview, 3-3;
- workshop, description, 3-6;
Group think, an attitude adapted by a group where no group member introduces new ideas, distrust is high and people are closed to new ideas.
- and group norms, B-36;
Guided Design, a problem-based program using small groups, self-directed problem solving with structured activities and feedback.
- as example of PBL, 1-1;
- cited use of, 1-5, 1-6;
- description of, A-16;
- monitoring the process, A-18;
- relaxing the formality of, A-18;
- sources of problems for, in different disciplines, A-17;

H

Handshakes, a warm-up activity, B-1, B-5;
Heppner's PSI
- availability, E-2;
- data, E-7, P-2;
- description, E-2;
- evaluation of the MPS program, P-2;
- use to assess and evaluate, D-2;
- use in time management workshop, D-13;
Heuristics, as unit 35 in the MPS program, P-5;
High schools, and PBL, 1-3;
Heard by learning resources, by students,
- methods to minimize, 5-13;
How to pick a teaching environment, see Learning.
How to select a PBL option for you, see Environment or Learning.
"How to Gain the most from PBL,* HTGTM, see Book HTGTM.
HTGTM see Book HTGTM.
Hypotheses: conjectures as a means of explanation.
- example assessment of student's ability, 5-8;
- see MPS unit 7.
- workshop to develop skill in generating,
- cited as part of week-long workshop, 6-5;
HYSGTM see Book HYSGTM.

I

Ice-breakers, see Warm-ups.
IDEAL strategy for problem solving, B-35;
Implementing, as unit 32 in the MPS program, P-5;
Instruction, see Learning.
Instruments: tests and questionnaires or sets of tasks to assess or evaluate knowledge, skill or programs.
- listing, E-2 ff;
- sources of, E-1;
Interpersonal skills: (People skills) how to effectively listen and respond to others, see also MPS Units, MPS 52.
- assessment of, examples, D-22;
- example journal, F-14;
- example topics and MPS program, P-6;
- instruments to evaluate, E-4;
- learning objectives, D-22;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- mini-workshop to develop, B-24;
- timing sheets, B-25;
- transparencies, B-27;
Interrupted process tests: example MEQ, triple jump, storyboard, OSCE;
- as test option, 5-5, 5-6;
Intervention, level of, for conflict, determine as group norms, B-36;
Interview as a method of assessment,
- example, Ex. 5-5, 5-11;
- use of personal interview for assessment, E-4;
"Issues", points-of-view and factors that relate to the situation, see also MPS units 7, 54.
- helping your students identify learning issues:
  - mini-workshop, C-1;
  - timing sheets, C-2;
  - transparencies, C-3;
- listing of,
  - in being an effective tutor in a tutored group, 2-3;
  - in effective groups, 3-8, D-23;
  - in group norms, B-35;
  - in implementing a PBL program, 1-2, 1-3;
  - in making process skills an "outcome" for the program, 3-8;

J

Jigsaw, see Consolidate meeting.
Johnson's conflict instrument, C-11, E-4;
- example data, C-14;
Journal, a written record or diary in which one reflects on experiences.
- alumni response, 6-4, P-4;
- assessment form for, A-15;
- components in, 3-9;
- degrees of expectation, 6-3, F-5, F-11, F-28;
- example, F-5, F-11 and F-28;
- forms for assessing, F-65;
- format for writing to make assessment easier, A-14;
- example use, F-12, F-20, F-29;
- how to write, 6-3;
- importance of, P-4, B-55
- instruments for evaluation, E-5;
- optional levels of use to monitor/reflect, A-12;
- student response to, 6-4;
- to develop confidence and skill, B-16;
- to internalize skill and confidence, 6-3, 6-4;
- use as evidence, 6-3;
- use for group norms, B-36;
- use with Socratic facilitation, A-21;
- why write, 3-3, 3-8, 3-9;
Judgement, colloquial usage is "the product of an assessment whose purpose is to criticize or give a mark or numerical "value". Contrast with "Feedback".
Jungian typology: a method of using the four dimensions identified by psychologist Carl Jung to classify human behaviour. This classification has resulted in the development of many instruments and questionnaires to help individuals identify their preferred style. Example instruments, Myers-Briggs, MBTI, Hogan-Champagne, Keirsey-Bates)
- and personal preference, D-10, F-4, F-3;
- and preferred test questions, B-38, B-42;
- and SDL, D-19;
- and self-talk, C-21;
- as a measure of diversity and uniqueness, D-10;
- as enrichment for group skills, B-30;
- cited, 4-7;
- implications for conflict, C-11, C-16;
- implications for learning, B-38, B-42;
- implications for teaching, B-38, B-42;

K

KAI, see Kirtion inventory.
Keep it surprisingly simple,
- application, 4-2;
Kepner-Tregoe, use in time management, D-13;
Kirtion inventory use, D-10;
- use for group norms, B-36;
KISS principle, keep it surprisingly simple.
Knowledge, subject or domain specific, Example, Biochemistry.
- amount in PBL:
  - comparison of amount you can "cover", 4-1;
  - example in MPS engineering, 3-2;
  - at the start, 4-2;
  - and problem solving, with issue of transferability, 3-3, 3-8, 3-9;
  - and retention, D-11;
  - as part of the program, 3-3;
  - assessment of, 5-3;
  - selecting what to include, 4-2;
Knowledge structure, the way that knowledge is structured in Long Term Memory:
- as unit 38 in the MPS program, P-5;
- characteristics of structure to facilitate problem solving;
  - hierarchical, F-60;
  - fundamentals at the top, F-60;
  - pointers to hook it to the real world, F-60;
- concept maps and, F-60;
- development of, in PBL, B-3;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- sketch of structure, B-3;
- types:
  - higgledy piggledy, B-3;
Kolb learning cycle, use of for personal style, D-10;

L

Lancaster approaches to studying, instrument, see LASQ.
Large classes and PBL,
- and using tutorless groups, 2-4;
  - as in Guided Design, A-16;
  - as in relaxed Guided Design, A-18;
- and Guided Design, A-16;
- and Osterman feedback lecture, cited, 3-2;
- options, 1-6;
- overview of what to do, 1-6;
- tutor-directed process, see Socratic facilitation.
- use of Socratic facilitation to demonstrate the strategy/process of PBL, A-21;
  - Guided Design variation, A-21, A-24 and A-25;
Larkin's checklist, to aid in learning,
- use for assessment, D-11;
LASQ instrument to measure student's approaches to learning
- and SDL, D-19;
- data, E-8, B-41;
- description, E-5;
- use, B-38, D-10, E-5;
LASSI instrument, E-3, E-5;
Learning, the process for the acquisition of new knowledge and skills. (see also Teaching.)
- approaches to learning:
  - collect sample solutions, 4-1, 4-5;
  - creating environment
    - for subject knowledge, 4-4;
    - to develop process skills, 4-4;
    - to develop expertise, 4-5;
  - effect of environment on learning style, B-38;
  - instruments to measure learning preference, E-5;
  - measure of learning environment, CPQ:
    - instrument, E-5;
    - example data, E-8, P-2;
  - options for, 1-5, 1-6;
    - lecture,
      - compared with PBL, 1-1;
      - starting from lectures and going to PBL, 1-5, 4-2;
    - PBL, forms of, 1-1, 1-5;
  - how to learn,
    - conditions to foster:
      - listing, 1-2, B-3;
    - how to improve learning, 1-2;
    - mini-workshop on teaching, B-38;
      - timing sheets, B-39;
      - transparencies, B-40;
    - workshop on, MPS unit 12;
      - cited as unit 12 in the MPS program, P-5;
      - objectives, D-11;
      - assessment, D-11;
      - workshop on self-directed learning, MPS unit 36; see mini-workshop B-38 ff.
    - assessment, D-19;
    - cited as unit 36 in the MPS program, P-5;
      - mini-version of workshop, B-38 ff.
      - objectives, D-19;
Learning objectives, see Goals, learning.
Learning how to learn or skill in "learning how to learn." The responsibility for the required elements in learning (deciding what to learn, the resources to be used and the assessment as to when the learning goals have been achieved) are assumed by the student and the student realizes that people are probably the best resource and they are effective interdependent learners. see SDL and MPS Unit 36.
- creating a "learning contract",
  - example, B-41;
  - example topics and MPS program, P-6;
  - instruments to evaluate, E-4;
  - objectives to develop skill, D-19;
  - overview, 3-3;
  - skills:
    - assess information, B-40;
    - identifying learning need, B-40;
    - identify type of evidence to show accomplishment, B-40;
    - locate probable learning resources, B-40;
    - setting goals, B-40;
    - set criteria, B-40;
  - workshop to develop skill as unit 36 in the MPS program, P-5;
  - mini workshop version, B-38 ff.
Learning style, see Personal style, learning.
Lectures, a teaching technique where the teacher expounds,
- compared with PBL, 1-1;
- starting from lectures and going to PBL, 4-2;
Levels of development: (related terms, Taxonomy and Successive approximation) One of the key attitudes for changing to PBL is to realize "You can't change it all immediately." Focus on "what you might do to start, perhaps "nibble" and successively develop different depths of approach."
Lifetime learning skills, see Learning how to learn.
Listening and responding: key components in interpersonal communication, see Interpersonal skills.
Look back, see Elaboration and MPS Units, MPS 14.

M
Making the implicit explicit, see Explicitness.
Marks or grades: explicit reward for performance traditionally as the output from an assessment in school or educational contexts. see Grades.
MBTI Myers Briggs Type Indicator, is one a number of instruments or questionnaires you can use to identify your Jungian typology. See Jungian typology.
McMaster Engineering and Management program,
- example week-long workshop, 6-5;
- training program for process skills, 3-2;
McMaster Medical School
- admission component for process skills, 3-2, 1-3;
- cited, 3-4;
McMaster University Theme School, 6-4;
McMaster Problem Solving Program, see MPS program.
MCQ multiple choice question:
- as test option, 5-4;
Medicine, see also McMaster Medical School, University of New Mexico and Newcastle Medical School.
- and PBL, A-20;
- and simulated patients, F-55;
- and Socratic facilitation, A-20;
Meetings, in PBL
- number of, 4-3;
- options, 4-3;
- purpose, 4-3;
- time between, 4-2;
- types of, 4-3;
- consolidate, 4-3, 4-7;
- elaborate, 4-3, 4-5;
- goals, 4-3;
- teach, 4-3;
- feedback, 4-3;
Membership, in groups,
- asking to leave, B-37
- norms for changing, B-37;
- selecting, 4-2;
MEQ modified essay question;
- as test option, 5-5;
Minutes, of group meeting, and group norms, B-35;
Misconceptions
- about change, B-13;
- about conflict, C-13;
Mission and Vision general goal statements that reflect the overall purpose and culture. This provides the "context" for a goal.
- assessment of skill in creating, D-18;
- as unit 54 in the MPS program, P-5;
- mini-workshop, C-1 ft.;
- timing sheets, C-2;
- transparencies, C-3;
- objectives for creating, D-18;
Mistakes
- importance of making, during "exploration", 4-5;
MOSI instrument for conflict, E-3;
Monitoring: process of reflecting on and keeping track of what is going on. This is a major theme of this book: "Monitor the processes you are using!" see also Feedback forms.
- and reflection, 5-9;
- assessing the monitoring/feedback, A-13;
- forms, A-14, A-15;
- how to monitor as tutor, A-4;
- importance of, B-16, 6-3;
- levels of, A-12;
- mini-workshop on, C-20;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- role of tutor, especially with tutorless group, 2-2, 2-3;
- Schoenfeld's data, B-17, B-22;
- example listing, B-20;
Morale-related behaviour: one of two key characteristics of a group
- as supplied by the tutor, 2-3;
- description of, B-32;
- list of behaviours, B-33;
Motivating students in the "new" approach:
- via 4-1, B-1;
- by change management, B-10;
- by testimonials from alumni, B-1.
MPS-Osterman feedback lecture:
- details of how to use, A-4;
- awareness activities, A-4;
- group skills, A-4;
- hypothesis generation activities, A-4;
- strategy activities, A-4;
- option cited, 1-4, 3-3;
MPS program. description of how we started, 3-1, P-1;
- effectiveness, 3-3;
- evaluation of, P-2;
- example data, E-6;
- key units in, 3-2; with descriptions, 3-4 ff;
- listing of all MPS units, P-5;
- relationship to global process skills, P-6;
- relationship to PBL, P-1;
MPS strategy: a 6-stage process used to help us solve problems systematically. see also MPS unit 4.
- use in strategy workshop, B-19;
- timing sheets, B-20;
- transparencies, B-21;
- workshop, B-16;
MPS Units: these workshops supply additional resources for developing your skills further.
- MPS 1. Awareness, description and comments, 3-4;
- cited as part of MPS program, P-5;
- cited use, 3-2;
- cited use as part of week-long workshop, 6-5;
- cited use as part of MPS Osterman feedback lecture, A-4;
- example objectives and assessment, D-4;
- example bridging activities,
  - in Engineering, A-7;
  - in Nursing, A-6;
- in Pharmacy, A-5;
- mini-workshop, C-20;
- MPS 2, Background to Problem Solving, description and comments, 3-4;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-5;
- MPS 3, Self-assessment, description and comments, 3-4;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-6;
  - mini-workshop, B-48;
  - timing sheets, B-49;
- transparencies, B-50;
- MPS 4, Strategy, description and comments, 3-4;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
- cited use as part of MPS Osterman feedback lecture, A-4;
  - example bridging activities,
    - in Engineering, A-7, A-10;
    - in Nursing, A-6, A-9;
    - in Pharmacy, A-5, A-8;
    - example objectives and assessment, D-7;
    - example reflective journal, F-6, F-29;
  - mini-workshop, B-16;
  - timing sheets, B-17;
  - transparencies, B-18;
- MPS 5, "Engage and Stress Management," description and comments, 3-4;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-8;
- MPS 7, Creativity, description and comments, 3-5;
  - cited as part of MPS program, P-5;
  - assessment instrument, Badarur, E-2;
    - example data, E-8;
    - cited use, 3-2;
    - cited use in week-long, pre-PBL workshop, 6-5;
  - cited use as part of MPS Osterman feedback lecture, A-4;
  - example objectives and assessment, D-9;
- MPS 11, Unique you, description and comments, 3-5;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-10;
- MPS 12, Learning skills, description and comments, 3-5;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-11;
- MPS 14, Creating the Look Back and extending experiences, description and comments, 3-6;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use, as part of Elaborate meeting, 4-3;
  - example objectives and assessment, D-12;
- MPS 17, Time Management, description and comments, 3-6;
  - cited as part of MPS program, P-5;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-13;
  - to develop self-confidence, P-6;
- MPS 23, Criteria, description and comments, 3-6;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-14;
- MPS 24, Decision-making, description and comments, 3-6;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-15;
- MPS 27-28, Group skills, description and comments, 3-6;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - cited use as part of MPS Osterman feedback lecture, A-4;
  - example objectives and assessment, D-16;
  - example reflective journal, F-20;
  - mini-workshop, B-30;
  - timing sheets, B-31;
  - transparencies, B-33;
- MPS 29 Chairperson skills, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-17;
  - feedback form for, F-64;
- MPS 31 Defining real goals, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-18;
  - mini-workshop to develop, C-1;
  - timing sheets, C-2;
  - transparencies, C-3;
- MPS 36 Self-directed learning, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-19;
  - example reflective journal, F-40;
  - mini-workshop to develop, B-38;
  - timing sheets, B-39;
  - transparencies, B-40;
- MPS 45 Coping creatively with conflict, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-20;
  - mini-workshop to develop, C-11;
  - timing sheets, C-12;
  - transparencies, C-13;
- MPS 49 Coping with change, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - example objectives and assessment, D-21;
  - mini-workshop to develop, B-10;
  - timing sheets, B-11;
  - transparencies, B-12;
- MPS 52, Interpersonal Skills, description and comments, 3-7;
  - cited as part of MPS program, P-5;
  - cited use, 3-2;
  - cited use as part of week-long workshop, 6-5;
  - example objectives and assessment, D-22;
- mini-workshop to develop, B-24;
- timing sheets, B-25;
- transparencies, B-27;
- MPS 53, Team building,
  - cited as part of MPS program, P-5;
Multiple choice tests:
  - as test option, 5-4;
  - cited, 5-4;
Myers-Briggs, see Jungian Typology.

N

Negotiate, one of five responses to conflict: (see also Problem solve, Collaborate)
  - example, C-15;
  - data for this as preferred response, C-14;
  - use of in conflict workshop, C-11 ff.
  - use of Johnson’s inventory to suggest preference, C-14;
Networking, interacting with people.
  - as unit 56 in the MPS program, P-5;
Newcastle Medical school, training program for process skills, 3-2, 6-4;
New Jersey Test of Reasoning, evaluation instrument, E-7;
Newsgroups, see E-mail bulletin boards.
Newsletters, sources of information about PBL, 7-3;
Nibble, to try a new idea, 1-3;
  - options, 1-5;
No! saying, C-21;
  - and time management, D-13;
  - four Nols in relationships, B-24;
Norm referenced interpretation, interpret the results of students relative to one another, 5-3;
Norms for groups, see Groups, working in, norms.
Number of students in a class, see Class size.
Number of students in a PBL group,
  - McMaster medical school (5), 1-4;
  - selecting, 4-2;
Nursing, example activities, A-6, A-9;
  - example conflict scenarios, C-19;
  - use of, for strategies, B-16;

O

Objective Structured Clinical Examination, see OSCE.
Objectives, see Goals; learning objectives, see Goals, learning.
Observables goals, see also Goals.
  - how to create, C-7, B-53;
Observation:
  - as test option, 5-4;
Observers, number needed to provide reasonable feedback, 5-10;
Odd instrument, E-2;
OLAT Otis-Lennon instrument, E-6;
Ombudspeople: representatives of the class who monitor and share with the tutor the strengths and areas to work on to improve the teaching-learning activities in the classroom. For classes of 60 to 300, use 6; for classes <60 use 3.
  - use of, D-23;
Opportunities, how to locate, uncover or discover.
  - workshop to develop skill as unit 41 in the MPS program, P-5;
Optimum sloppiness, being able to select the appropriate level of approximations to use given the resources available. see also
Successive levels of development.
  - cited, B-40;
  - workshop to develop skill in as unit 40 in the MPS program, P-5;
OPV, term coined by Edward de Bono to mean "Other Person's Viewpoint", see Point-of-view.
Oral exam:
  - as test option, 5-4;
OSCE tests: Objective Structured Clinical Examination: an interrupted process;
  - as test option, 5-4;
Osterman Feedback lecture
  - as nible, 1-5, 1-6;
  - cited, 1-4, 3-2;
  - details of how to use, A-1;
  - example handout, A-2;
Outcome, general term used to describe any goal. In education, we use the term to mean the knowledge, "process skills" and attitudes we would like to see possessed by our graduates. (The latter are sometimes referred to as "abilities," "competencies" or "skills." The results or "deliverables" (of a program).
  - and assessment, 5-1;
  - example, 3-1;
  - making a valued skill an outcome, 3-1;
  - see "Process skills."
  - understanding an outcome via goals, 3-2;
  - using evidence to show achievement of outcome, 5-9;
Outline, course: see also Course description.
  - example, D-2;
  - importance of process skills being included in, 3-8;
Overcoming barriers, see Getting unstuck as it pertains to problem solving; see Convincing others, as it applies to gaining support for an idea.

P

P4 Portable patient problem pack developed by Howard Barrows.
  - as an assessment instrument, 5-7, F-55;
Pareto principle, 80% of the results are produced from 20% of the effort.
  - cited in MPS 2, D-5;
  - use of, in time management, 3-6;
Pass/fail versus marks, see Assessment.
Pattern recognition, process by which we search for cues to classify a situation as being either a "problem" or an "exercise."
  - and MPS Unit 14, D-12;
  - description, 4-5;
  - difficulties as noted by Schoenfeld, 4-5;
  - data, 4-6;
PBEE test: problem-based evaluation exercise: Brandt's adaptation of the triple jump for large classes.
  - as test option, 5-4, E-5;
  - cited, 1-5;
  - details, F-45;
  - example in biochemistry, F-45;
PBS, see Problem-based synthesis.
PEEK, an instrument to assess student’s Perceptions, Expectations, Emotions and Knowledge about college, E-3, E-5, E-11;
Peer assessment, 5-9. See also Assessment.
  - comparison with self- and tutor, 5-11, 5-12, and 5-13;
  - data, 5-13;
  - environment for valid, 5-10;
- how to train, 5-10;
- need for training, 5-10;
- need to value as an output skill, 5-10;
Peers as resources, D-19;
People skills, see Interpersonal Skills.
PEP, personal enrichment program,
- as part of the MPS program, E-4;
- definition, E-4;
Perry, model for attitude toward learning: a structured list of
attitudes toward knowledge, the roles of teacher and of the student and
toward assessment. related concept is Kitchener and King's Reflective
Judgement model.
- and change, D-21;
- and SDL, D-19;
- and group norms, B-36;
- as instrument for evaluation, E-5;
  - data, E-9, P-3;
  - cited, 4-5, B-36;
  - description, E-5;
  - evaluation of the MPS program, P-3;
  - example data, E-9, P-3;
  - example use, in change workshop, B-10, B-14;
  - use of questionnaires to indicate Perry level, B-13, B-14;
  - use to identify personal style, D-10;
Personal enrichment program, see PEP.
Personal rights: listing of the seven, B-27;
Perspective, see Point-of-view.
Personal preference, see Personal style.
Personal style: a general term for things that one prefers or prefers
to do. the unique way one wishes to do things and to think about
ideas. see MPS Units, MPS 11.
  - and commitment, via commitment charting, see Commitment
    charting;
  - assessment of, student's awareness of, D-10;
  - as unit 11 in the MPS program, P-5;
  - in group dynamics, as measured by FIRO-B, D-16;
  - in learning,
    - workshop to help discover, B-38;
    - deep versus shallow processing, B-38;
    - instruments, E-5;
    - Jungian dimensions:
      - some implications for learning, B-38, B-42;
      - skill, LASSI, E-3;
    - in responding to conflict, C-14, C-16;
    - objectives to develop awareness, D-10;
    - sharing of information about, and group norms, B-36;
Personal uniqueness, see Personal style.
Pharmacy,
  - and simulated patient, F-55;
  - cited, C-20;
  - example activities, A-5, A-8;
  - Guided Design problems in, A-17;
  - Socratic facilitation in, A-19;
  - use of activities for problem solving, B-16;
Piaget level, Instrument to evaluate level, E-6;
Point-of-view, seeing the situation from many different points-of-view
so as to, for example, identify issues.
  - other person’s;
  - importance of, for goal setting, C-4;
Pointers or cues, phrases and sensual input that are used in pattern
recognition to determine if a situation is a Problems* or an “exercise.”
  - misreading by novices, 4-5;
Pointers or cues, phrase and sensual input that are used to identify
pertinent subject knowledge. Related terms, Knowledge structure.
  - as links to the "real world", B-3;
Portable patient problem pack, see P4.
Problem: (a situation where the outcome or is not immediately clear;
contrast with, "exercise" where, although the specific outcome is not
immediately known, the process to obtain an answer can be recalled
and applied relatively easily) see also Case.
  - description, 4-5;
  - how to select problems for PBL, 4-2;
  - how to select problems/activities for the development of
    process skills, 3-3;
  - importance of reflection and creating other problems, 4-7, 5-3;
  - see also MPS Unit 14.
  - recognizing problems or exercises by pattern recognition, 4-5;
  - shifting problems to exercises, 4-5;
  - use of
    - to drive the learning, as in PBL, A-20;
    - to synthesize previously learned knowledge, as in PBS,
      A-20;
Problems examples:
  - for conflict, C-19;
  - for criteria, C-10;
  - for Guided design, list, A-17;
  - for identifying assumptions about learning style, B-43;
  - for objectives, C-9, C-10;
  - for results versus actions, C-9;
  - for Terry Sleuth, A-7 ff;
Problem-based evaluation exercise, see PBEE.
Problem-based learning (PBL) use of problems to drive the learning;
used before the students learn the knowledge. Typical approach in
design projects, research and medical school approach. Contrast with
"problem solving." You can develop skill in "problem solving" without
using PBL. Problem solving skills can be developed and used
whenever there are problems to be solved. PBL is a method to improve
learning by posing a problem first. Since this requires that
our students solve problems, we need problem solving skills. Thus,
you can have problem solving without using PBL. You cannot use
PBL without using problem solving. You can use problem solving
without using PBL.
  - as unit 36 in the MPS program, P-5;
  - challenges to implementing a PBL program, 1-2;
  - compared to conventional programs, 4-1;
  - example forms of, 1-1;
  - creating learning environments to overcome weaknesses, 4-1;
  - issues for effective small group:
    - attendance, 3-8;
    - conflict, 3-8;
    - free riders, 3-8;
    - norms, B-35;
  - knowledge "coverage" in, 4-1;
  - relating PBL to the MPS program, P-1;
  - three reasons for its appeal, 1-1;
"Problem-based Learning: Helping your students gain the most from
PBL" see Book: HYSGTM
"Problem-based Learning: How to Gain the Most from PBL" see
Book: HTGTM.
"Problem-based Learning: Resources to gain the most from PBL." see
Book: Resources
Problem-based synthesis (PBS) use of problems to synthesize
previously-known knowledge, used after the students have learned
the knowledge. Typical approach in the business school case approach.
- comparison with PBL, A-20;
  Problem solving, the processes used to monitor, select, retrieve and
  work with knowledge so as to make a decision or reach a goal. (as
  an approach to handle conflict, see Collaborate). see also Process
  skills and specific training programs found under MPS Units.
  Contrast with PBL. You can develop skill in "problem solving"
  without using PBL. Problem solving skills can be developed and used
  whenever there are problems to be solved. PBL is a method to
  improve learning by posing a problem first. Since this requires that
  our students solve problems, we need problem solving skills. Thus,
  you can have problem solving without using PBL. You cannot use
  PBL without using problem solving. see also Teaching problem
  solving, how to.
  - a PBL problem, process, list of 8 stages, A-20, B-40;
  - and transferability, 3-8;
  - and working backwards, 4-5;
  - as a process skill to learn, 1-1, 3-1;
  - as a skill needed in PBL, 1-1, 3-1;
  - as a skill to be developed and assessed, 3-1;
  - assessment of, E-2;
    - example data, E-6;
  - as units in the MPS program, P-5;
  - comparison versus exercise solving, 4-5;
  - confidence in skill, Heppner measures, E-2;
  - components skills: see MPS Units and Table, p 3-3, P-6.
    - awareness of process,
    - strategy,
    - creativity,
    - decision-making,
    - defining or goal setting,
    - creating the look back,
  - definition of, unit 2 in the MPS program, P-5;
  - description of the process, 4-5;
  - ease in development, 3-9;
  - evaluation of, instruments:
    - Basudur, E-2;
    - Billings-Moos, E-2;
    - Heppner's PSI, E-2;
  - example topics and MPS program, P-6;
  - improvement through reflection, 5-9;
  - mini-workshop on (strategy) B-16 ff;
  - optional levels of monitoring/reflecting via feedback forms, A-
    12;
  - overview, 3-2, P-6;
  - what teaching techniques do not seem to be effective, 3-1;

Processes, thought, during problem solving:
  - introductory description, 3-4;
  - used during problem solving stages, listing, 3-9;

Process for developing skill, workshops. 1-4, 3-8, Chapter B;

Process skills for PBL: see also each listed under the specific topic.
  - concurrently with PBL, 3-2, 6-3;
  - ease in developing different types, 3-9;
  - evaluation of MPS program to develop, P-3;
  - example week-long workshop, 6-5;
    - specific workshop, see MPS Units.
  - how to develop by explicit workshops:
    - cited in Table, 1-5;
    - specifics of workshops, 3-2, 3-4 ff;
    - specifics for week-long workshop, 6-5;
  - listing, 1-1, 3-2, 3-4, P-5;
    - decision-making, see problem solving.
  - problem solving, see MPS Units, MPS 1, 2, 4, 5, 7, 17, 23, 24, 31.
  - group skills, see MPS Units, MPS 27-28, 29, 45, 52.
  - self-confidence, see MPS Units, MPS 11, 52;
  - self-directed, interdependent learning skills, see MPS
    Units, MPS 12, 36.
  - self-assessment, see MPS Units, MPS 3.
  - need for a lifetime, 6-1;
    - optional levels of monitoring/reflecting via feedback
      forms, A-12;
  - three stages in development: build, bridge and extend, 3-3, 3-
    8;
  - transfer of skills from one-domain to another, 3-3, 3-8;
  - treat like a black box, 6-2;
  - use of HTGTM to help develop, 6-2;
  - when to develop, 3-2;
  - why assess? 5-10;

Procrastination, putting off to another time; delaying action.
  - workshop to overcome this preference as unit 42 in the MPS
    program, P-5;

Q

Quality of Learning Index, QLI. P-3;
  - as evaluation instrument, P-3;

Questionnaires, see Instruments.

Questions,
  - asking, Types of questions to ask:
    - as unit 20 in the MPS program, P-5;
    - "If you..." questions, to assess, B-38, B-42, C-1;
    - "What if?" questions, to assess, B-38, B-42;
    - "Why? Why? Why?" to broaden perspectives, C-1, C-5;
    - exam questions and teacher-student preference, B-38, B-
      42;
    - and Jungian typology, B-38, B-42;

QLI, see Quality of Learning Index.

R

R, correlation coefficient of reliability, 5-2;

Rating scales:
  - as test option, 5-4;

Real problem, as opposed to the "stated problem":
  - as units 15 and 31 in the MPS program, P-5;
  - mini-workshop to develop skill in identifying, C-1;
  - use of issues to broaden perspectives to help, C-4;

Reflecting in the context of personal growth, deliberately taking time
to recall and analyze the actions you took and the processes you used.
Related terms are "Monitoring" and "Journal writing."
  - and improvement of problem solving skills, 5-9;
  - and monitoring, 5-9;
  - as the eighth step in the PBL list of tasks, A-21, B-40;
--- choice of forms for reflection about student's
  - change and stress management, A-12;
  - experience knowledge, A-12;
  - group skills, A-12;
  - interpersonal skills, A-12;
  - knowledge structure, A-12;
  - problem solving processes, A-12;
  - self-assessment skills, A-12;
  - self-directed learning skills, A-12;
  - team skills, A-12;
  - importance of, S-6, B-55, C-20;
  - on each meeting, feedback form, B-32;
  - options for amount of reflection used, A-12;
Reflecting, in the context of communication: a listening skill in which
the listener reflects the message back to the speaker.
  - workshop to develop skill as unit 26 in the MPS program, P-5;
Reflective journal, see Journal.
Reflector, role in group, B-37;
Reliability: accuracy of an assessment
  - and assessment, 5-2;
  - types of, 5-2;
  - typical values of, 5-2;
Resistance to change, how to overcome, see Getting support for your
approach.
Resistance by students, how to overcome:
  - by 4.1, B-1;
  - by change management, B-10;
  - by testimonialns from alumni, B-1.
Resources about PBL, 7-1 ff.,
  - articles, 7-5;
  - books, 7-1;
  - c-mail bulletin boards, 7-3;
  - newsletters, 7-2;
  - videotapes, 7-8.
Resources available to teaching, see Class size.
Resources available to complete the task: time, knowledge. Related
term Optimum sloppiness.
  - and assessment, 5-9;
  - and goals, C-7;
Resources for learning, materials from which the students can learn.
  - defacing by students, 5-13;
  - hoarding by students, 5-13;
  - how to create, 4-4;
  - example, D-1;
Resources for group meeting, and group norms, B-35;
Resources for teachers, see Book: Resources.
Responses, by tutors, example, 2-2;
Responses to:
  - conflict, options, C-15;
  - norms about how to in group, B-36;
  - students by tutor, 2-2;
  - teach meeting, Bob's handouts, B-43 ff.,
Responsibility, and "action" column in minutes, B-35;
Results, express goals in terms of, C-7;
  - express decisions in terms of, C-7;
  - example worksheet, C-9;
Retention of knowledge,
  - and time management, D-11;
Review, see Reflecting.
Rights, personal,
  - list of, B-27;
Robert's rules of order, and group norms, B-35;
Roles for group members:
  - and group norms, B-35;
  - calculator, 3-6, B-35;
  - chairperson, 3-6, B-35;
  - checker, 3-6, B-35;
  - elaborator, 3-6, B-35;
  - encourager, 3-6, B-35;
  - process observer, B-35;
  - recorder, 3-6, B-35;
  - validator, 3-6, B-35;
  - workshop to identify and clarify:
    - as unit 55 in the MPS program, P-5;
Rotter's locus of control
  - availability, E-3;
  - description, E-3;
  - use of, in time management workshop, D-13;
Rules of conduct in your class, see Environment and Empowerment-
accountability.
Rules of conduct for a group, see Groups, working in, norms.

S
SA, self-assessed.
SG, small group.
Sample solutions,
  - collection of, as learning tactic, 4-1;
  - comparison of numbers in PBL versus conventional, 4-1;
    - implications, 4-5;
  - gathering many different via creating the look back, MPS Unit
    14, D-12;
Sandler's rule, and group norms, B-36;
Saying NO!, C-21;
Scientific method, strategy for problem solving, B-35;
Scramble, see Consolidate meeting.
SDL, self-directed learning.
Self-assessment, see MPS Units, MPS 3.
  - as a process skill to learn, 1-1, 3-1;
  - assessment of, example, D-6;
  - comparison with tutor and peer, 5-10, 5-12;
  - ease in development, 3-8;
  - environment to promote valid assessment, 5-10;
  - example topics and MPS program, P-6;
  - how to provide training, 5-10, see MPS Unit 3;
  - instruments to evaluate, E-4;
  - need for training, 5-10;
  - objectives, example, D-6;
  - optional levels of monitoring/reflecting via feedback forms, A-
    12;
  - overview, 3-3, P-6;
  - workshop to develop skill in, B-48;
Self-awareness: see MPS Units, MPS 11.
  - as a process skill to learn, 1-1, 3-1;
  - ease in development, 3-9;
  - example topics and MPS program, P-6;
  - overview, 3-3, P-6;
  - through inventories such as,
    - Jungian typology, B-38;
    - Johnson's conflict style, C-14;
    - through feedback, see Feedback.
Self-confidence, confidence in yourself; and related term Self-esteem.
see MPS Units, MPS 5, 11, 17.
- as a process skill to learn, 1-1, 3-1;
- developing it, for problem solving, B-21;
- example topics and MPS program, P-6;
- Heppner’s instrument to measure, E-2;
- results, E-7, P-2;
- how to develop, via journal writing, 6-3;
- via monitoring and reflection, 6-3;
- overview and suggested activities, 3-2;
- use of journal writing, 6-3;

Self-directed learning, (Learning how to learn) see MPS Units, MPS 36.
- and "deep" versus "surface" learning, B-38;
- examples, B-43;
- and Jungian typology, B-38;
- examples, B-43;
- as a process skill to learn, 1-1, 3-1;
- assessment of, example, D-19, F-2, F-4;
- journal, F-40;
- forms to assess journal, F-64;
- ease in development, 3-9;
- example journal, F-40;
- objectives, example listing of, D-19;
- optional levels of monitoring/reflecting via feedback forms, A-12;
- overview, 3-2, P-6;
- mini-workshop to develop, B-38;
- student readiness for, instruments
  - Guglielmino, E-5;
  - Perry, E-5;
  - Piaget, E-6;
Self-esteem; see Self-confidence. see MPS Units, MPS 11.
- and interpersonal skills, B-24 ff;
- how to develop it, 3-2, P-6;
- transparency, B-25;
Self-management, see self-confidence.
Self-monitoring, see Monitoring.

Self-paced options:
- DA-E dialogue, A-21;
- example, A-25;
- P4 deck, 5-7, F-53, F-55;
- simulations, 5-7, F-55;
Self-study: as component in PBL, B-42, A-20, A-21;
Self-talk: what we say to ourselves. Important because self-talk triggers anger and impacts on stress,
- and stress, C-21;
- mini-workshop, C-21;
SG, small group; see Group, small.
Setting up a program, see Starting.
Short answer question: as test option, 5-4;
SIER model for listening, use of, D-22;
Simple, see Keep It Surprisingly Simple.
Simplifying, the process of making approximations,
- workshop to develop skill as unit 37 in the MPS program, P-5;
Simulated patient and assessment, 5-7, F-53;
Simulations, for assessment, F-55, 5-7;
Size of class, see Class size.
SOAP acronym for symptoms, observe, assess, and plan.
- use of, A-21, A-22, F-43;
Socratic facilitation, tutor directs students through the process by astute socratic-style questioning.
- cited, 1-1;
- cited use of, 1-5, 1-6;
- details for a large class, A-19;
- comparison between business and medical schools, A-20;
- Cleary’s approach with four meetings, A-21, A-23;
- Hansen’ approach with two meetings, A-21, A-22;
- details for personalized, A-19;
- examples, A-25;
- self-paced, examples, A-19, A-25;
- via DA-E conversation, A-19;

Starting
- example description, 1-3;
- example, Dave, 1-4;
- example of the MPS program, 3-1, P-1;
- getting support for your approach.
  - from students, via 4-1, B-1;
  - by change management, B-10;
  - by testimonials from alumni.
  - from Deans and Chairs, D-23;
- how to start, the nitty gritty details, 4-2 ff;
- where to start, Table of options, 1-5, 1-6;
- your first class, 4-7;

Stonewalling, see Withdraw.

Strategy for PBL: eight steps
- comparison with strategy for PBS, A-20;
- Guided Design’s "Thinking about Thinking", cited, A-18;
- SOAP, A-21, A-22;
- use of in "relaxed" Guided design, A-18;

Strategy for Problem Solving, an organized and systematic approach.
see MPS Unit 4.
- and group norms, B-35;
- as unit 4 in the MPS program, P-5;
- description of
  - MPS 6-stage, B-19;
  - diad workshop, 3-4, B-16;
  - evidence for, B-54;
  - example options, Polya, IDEAL, Scientific method, B-35;
  - example assessment journals for MPS 4, F-6, F-29;
  - mini-workshop, B-16 ff;
  - strategy "board", B-19;
  - stage-time charts, B-19;

Stress, the body’s non-specific reaction to a demand or stressor in an attempt to return to "normalcy".
- and change, B-13;
- and self-talk, C-21;

Stress management,
- as an element in developing self-confidence, P-6;
- as unit 5 in the MPS program, P-5;
- cited as part of week-long workshop before PBL, 6-5;
- how to develop skill via workshops, 3-4; MPS Unit 5.
- optional levels of monitoring/reflecting via feedback forms, A-12;

Style, preferred, see Personal style.
Student/staff ratio, see Class size.

Student
- developing process skills of, 3-2;
- helping them, via book HITGTM,
  - develop process skills, 6-1;
  - understand PBL, 6-1;
- helping them, via workshops:
  - become skilled at self-assessment, 3-4, B-48;
Teaching, the process of facilitating the learning of knowledge and skills. See "Learning" and also "Teaching (a specific process skill), how to":
- options, see Learning options.
- your role as teacher in self-directed, interdependent learning, 2-1 ff;
- - Socratic facilitator versus facilitating presence, 1-1;

Teaching change management skills, how to, see MPS Unit 49.
- assessment of, D-21;
- - instruments to evaluate, E-3;
- - example component in week-long workshop, 6-5;
- - mini-workshop in, general description, 3-7;
  - - details, B-10;
  - - - timing sheets, B-11;
  - - - transparencies, B-12;
- - objectives for development of, D-21;
- - optional levels of monitoring/reflecting via feedback forms, A-12;
- - overview of, 3-2, P-6;
- - Taylor's chart of process, B-14;
- - use of HTGTM, to help students, 6-2;
  - - typical student response, 6-3;

Teaching group skills, how to, see MPS Units, MPS 27-28.
- assessment of, D-16;
- - example journal for, F-20;
- - instruments to evaluate, E-4;
- - ease in development, 3-9;
- - example component in week-long workshop, 6-5;
- - issues for effective small group:
  - - attendance, 3-8;
  - - conflict, 3-8;
  - - free riders, 3-8;
- - mini-workshop,
  - - general description, 3-6;
  - - details, B-30;
  - - - timing sheets, B-31;
  - - - transparencies, B-33;
- - objectives, D-16;
- - optional levels of monitoring/reflecting via feedback forms, A-12;
- - overview of, 3-2, P-6;

Teaching interpersonal skills, how to
- assessment of, D-22;
- - example journal for, F-12;
- - instruments to evaluate, E-4;
- - mini-workshop in, general description, 3-6;
  - - details, B-24;
  - - - timing sheets, B-25;
  - - - transparencies, B-26;
- - objectives for development of, D-22;
- - overview of, 3-2, P-6;

Teaching "lifetime learning" skills, how to
- assessment of, D-19;
- - example journal for, F-40;
- - example PBEE, F-45;
- - instruments to evaluate, E-5;
- - ease in developing, 3-9;
- - mini-workshop in, general description, 3-7;
  - - details, B-38, B-47;
  - - - timing sheets, B-39;
  - - - transparencies, B-40;
- - objectives for development of, D-19;
- overview of, 3-2, P-6;

Teaching problem solving skills, how to
- assessment of, D-4, D-5, D-7, D-9;
- example journal, F-5, F-29;
- instruments to evaluate, E-2;
- ease in developing, 3-9;
- example component in week-long workshop, 6-5;
- mini-workshop in, general description, 3-4, 3-5;
  - details, B-16;
  - timing sheets, B-17, B-22;
  - transparencies, B-18, B-23;
- objectives for development of, D-21;
- overview of, 3-2, P-6;

Teaching self-assessment skills, how to
- assessment of, D-6;
- instruments to evaluate, E-4;
- ease in developing, 3-9;
- example component in week-long workshop, 6-5;
- mini-workshop in, general description, 3-4;
- objectives for development of, D-6;
- overview of, 3-2, P-6;

Teaching self-confidence, how to
- mini-workshop in, general description, see listing Table 3-1 and then refer to MPS units by number.
  - details for self-talk, C-21;
- overview of, 3-2, P-6;

Team (and team work)
- as unit 53 in the MPS program, P-5;
- how to build, as part of workshop, 6-5;
- optional levels of monitoring/reflecting via feedback forms, A-12;

TAPS, see Tests and examinations of process skills.

Terry Sleuth, detective stories written to build a skill or bridge the application of the skill. Used primarily in the development of Awareness or Strategies.
- cited, A-4;
- examples, A-7 to A-10;
- use of, B-16, B-21;

Tests or examinations:
- and assessment, 5-1;

Tests and examinations of process skills, TAPS: use in MPS program, P-1, P-3
- examples, D-4 ff, F-1;

Text HTGTAM, see Book: HTGTAM.
Text HYSSTAM see Book: HYSSTAM

Time, amount of time allowed. see also Timing sheets for workshops.
- available to "cover" subject knowledge, comparison, 4-1;
  - discussion, 3-2, 4-2;
  - between PBL meetings, 4-2;
  - for group meetings, and norms, B-36;
  - for PBL meetings, 4-2, 4-3;
  - for workshops to develop process skills, allowed for full workshops, listed in Table 3-2, p. 3-4 ff.
  - for week-long workshop program, 6-5;
  - for mini-workshops, see Resources Chapters B and C for details for specific mini-workshop.
  - life of a group in PBL, 4-3;
  - when to develop process skills, see Process skills, when.

Time management,
- and saying NOT, C-21;
- assessment of skill, D-13;
- as units 17 and 25 in the MPS program, P-5;

- objectives to develop skill, D-13;
- workshop to develop, see MPS Units, MPS 17.

Timing sheets description of the amount of time to allow for each activity in a workshop. Gives details of the topic and the typical transparency to use. Given for various workshops on:
- conflict resolution, C-12;
- goals and goal setting, C-2;
- group skills, B-31;
- interpersonal skills, B-25;
- managing change, B-11;
- problem solving skills, B-17, B-22;
- self-assessment, B-45;
- self-directed learning skills, B-39;
- teaching each other, B-39;
- understanding PBL, B-2, B-6, B-9;

Tolerance for ambiguity, instrument, E-3;
Training students to "be tutors," see Process skills.
Training tutors, see Tutors, training.

Transfer of process skills. One of the greatest challenges in the development of process skills. Can process skills developed in one subject domain or context be transferred and applied effectively in other situations? Example three-stage learning process to develop transferability, 3-3, 3-8;

Translation, of written to visual image, see Visual thinking.

Transparencies, examples of ones used in workshops to develop:
- conflict resolution, C-13;
- goals and goal setting, C-3;
- group skills, B-33 ff;
- interpersonal skills, B-27 ff;
- managing change, B-12 ff;
- problem solving skills, B-18 ff, B-23;
- self-assessment, B-50 ff;
- self-directed learning, B-40 ff;
- teaching each other, B-40 ff;
- understanding of PBL, B-3 ff, B-7 ff;

Transparencies, use of
- for Osterman's feedback lecture, A-3;
- for Socratic facilitation, A-19 with examples, A-24;

Triple Jump test: an interrupted process test;
- as test option, 5-6;
- details, F-45;

Trouble-shooting process problems: identifying and correcting faults in the PBL process and student learning.
- attendance, D-24;
- conflict, by running workshops and empowering them, C-11;
- how to prevent by anticipating, D-23;
- how to prevent by establishing group norms, B-35;
- how to prevent by spelling out consequences, 4-4;
- partial listing of typical;
  - tutored group, 2-3;
  - tutored group, 3-8;

Trouble-shooting skills (diagnostic skills)
- how to develop and assess, F-53;
- workshop to develop skill as unit 34 in the MPS program, P-5;

Trust willingness to disclose to and depend on another.
- and conflict, C-15;

Tutor, faculty member, teacher or advanced graduate of a program who serves as "teacher" or "facilitator" for the learning process. (In this book we do not use tutor to mean "student or peer tutor").
- and critical instant triads, F-53;
- as assessor, 5-2 ff;
- of performance in groups, difficulties, 5-10;
- examples, selecting questions, 5-3;
- your marks versus self and peer marks, 5-11, 5-13;
- requiring evidence, 5-9;
- as monitor of
  - the goals and objectives, 4-4;
- as Socratic facilitator, 1-1;
- details and examples, A-19 ff.;
- as facilitating presence, 1-1;
- being a tutor in a group, description, 2-1;
  - Wilkerson's description of student expectations, 2-2;
  - tutor's perception of role, 2-2;
- clarifying students expectations of, via HTGTM, 6-3;
- developing process and facilitation skills of, 3-2;
- training, 3-2;
- use of HTGTM to help train, 6-2;
- with "tutorless groups," 2-4;
- and role of monitor and assessor, 2-4;
Tutor-directed problem solving, see Socratic facilitation.
Tutored groups. one where a tutor is present in the group. Contrast with tutorless groups.
- and role of tutor, 2-1;
- selecting whether tutored or tutorless, 1-4;
Tutorless groups. situation where a tutor may be in the room but the students function without the presence of a tutor in their group.
- and role of tutor, 2-4;
- empowering students, 1-6;
- in Theme school, 6-4;

U
University of Adelaide, materials developed at, A-19;
University of Newcastle, cited, 3-2, 6-4;
University of New Mexico,
- cited, B-16;
Unstuck, being able to get yourself unstuck when solving problems.
- as unit 10 in the MPS program, P-5;

V
Validity does a test measure what it claims to measure?
- and assessment, 5-2;
- types of, 5-2;
- typical values of, 5-2;
Videotapes
- list of, about PBL, 7-8;
- use of, to show PBL: 6-1, 6-2, B-1, B-2, B-5, B-9;
- use of, to develop self-confidence, 3-3;
- use of, to develop
  - interpersonal skills, 3-7, B-24, D-22;
  - group skills, 3-6, B-30;
  - problem solving skills, B-16;
Virginia Commonwealth University, cited, A-19;
Vision, creating an inspiring description of "how" you plan to achieve your mission and goals; a description of the guiding principles and values for behaviour.
- as unit 54 in the MPS program, P-5;
Visual thinking, creating a drawing or image of the problem situation; able to select symbols to represent ideas.
- workshop to develop skill as unit 8 in the MPS program, P-5;
Visual thinking, being able to interpret drawings and images. In particular, to read engineering process and information diagrams.
P&IDs.
- workshop to develop skill as unit 19 in the MPS program, P-5;

W
Warm ups: activities with a purpose to help students get to know one another.
- examples:
  - commitment charting, B-1;
  - handshakes, B-1, B-5;
  - use to help select groups, B-1;
- WASI instrument to evaluate, E-7;
- Watson-Glaser instrument, E-6;
Why change to PBL?
- general advantages, 1-6;
- why our Department changed, 3-1;
Withdraw, one of five responses to conflict.
- as damaging to a relationship, B-24, B-28;
- example, C-15;
- data for this as preferred response, C-14;
- use of in conflict workshop, C-11 ff.
- use of Johnson's inventory to suggest preference, C-14;
  - example activity, C-19;
Working backwards, as a tactic for solving problems.
- as a tactic to develop a plan for problem solving, 4-5;
- as a characteristic of "problem solving", 4-5;
- contrast with working forwards, 4-5;
Working forwards, as a tactic for solving exercises.
- as a characteristic of "exercise solving", 4-5;
- contrast with working backwards, 4-5;
Worksheeets activities used in workshops. see also Terry Sleuth.
  - for conflict resolution, C-19;
  - for criteria, C-10;
  - for goal setting, C-9;
  - teaching handouts from students (finance), B-43;
Workshops, a learning environment where the students do an activity, receive prompt feedback, plan a new activity, do it, receive prompt feedback.
- cited use of, to develop process skills, 1-4;
- description of explicit development of skills by, A-4;
Workshops, example details to develop process skills: see also Mini-workshops.
  - awareness, C-20;
  - conflict resolution, C-11;
  - goals and goal setting, C-1;
  - group skills, B-30 ff.;
  - interpersonal skills, B-24 ff.;
  - managing change, B-10 ff.;
  - monitoring, C-20;
  - problem solving skills, B-16 ff., B-21;
  - self-assessment, B-45;
  - self-directed learning, B-38 ff.;
  - self-talk, C-21;
  - teaching each other, B-38 ff.;
  - understanding of PBL, B-11 ff., B-5 ff., B-9;
Writing essays:
- as test option, 5-5;
Your first class, 4-7: