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And Principle-Based Instruction: Beyond Universal Instructional Design (2009)

PBi

ENGAGING ADULT LEARNERS

Philosophy, Principles and Practices

Summer 2013

"There are two types of teachers: Teachers who call on you when they think you know the answer. And teachers who call on you when they're pretty sure you don't. Some teachers look at you and make you feel like you can do no wrong. Some look at you and make you feel you can do nothing right. You can learn from both types - but you learn totally different things - about them and yourself."

(Lily Tomlin in Edith Ann, My Life so Far)

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PS – If you would like copies of the two previous books, Universal Instructional Design: An Implementation Guide, and/or Principle-Based Instruction: Beyond Universal Instructional Design, send your request to jim.d.bryson@gmail.com

PREAMBLE

"The ultimate goal of teaching is to make the new seem familiar and the familiar seem new."
(Samuel Johnson)

When I wrote **Universal Instructional Design: an Implementation Guide**, it was after many years in the fields of corporate training, adult education and disability services. It was also at the conclusion of an Ontario Ministry-funded research project in Universal Instructional Design. That experience led to the writing of that first book about teaching adults. When the research project ended, I reflected a long while on the experience and on what we had learned about the practices that constitute excellence in adult teaching and training.

When I decided to write the second book, **Principle Based Instruction: Beyond Universal Instructional Design**, it was more about putting my developing ideas in print for others to consider. I consulted a variety of colleagues, students and friends whose opinions I valued. I asked each the same question. What should this book look like? The responses were consistent. Make it clear. Make it relevant. Make it practical. Make it engaging. Make it understandable. Make it interesting. And finally, they said, make it brief. The feedback that I received confirmed that I had done so.

This even shorter book, **Engaging Adult Learners: Philosophy, Principles and Practices**, takes some of the main concepts of Principle Based Instruction and then focuses on a particular set of concrete instructional practices that I believe will engage adult learners and provide teachers with a sense of enjoyment and satisfaction in their role. If you have not read **Principle Based Instruction**, you probably should as a basis for what is in this book, since what is drawn from that book is presented in only brief form here. However, this book stands on its own as a source of practical ideas for successful and satisfying teaching at the postsecondary level. The goals are as follow:

1. **To define and promote a particular philosophy and set of guiding principles**.
2. **To outline shifts in perspective on student learning and performance characteristics that we need to consider in course planning and delivery.**
3. **To provoke thought, discussion and debate about teaching adults**.
4. **To promote and encourage a set of specific teaching practices that I believe reduce barriers to learning and contribute to student engagement and success and to teacher enjoyment and satisfaction.**

A PHILOSOPHY OF TEACHING ADULTS

The starting point is an underlying philosophy of teaching. We all have one, though it may not be formally articulated. For myself, the four core beliefs upon which my approach teaching adults is based are outlined below.

1. **TEACHING IS DIALOGUE.** From the time Socrates walked along garden paths in Greece engaging students in dialectic reasoning as a means by which knowledge is conveyed and produced, we have recognized that dialogue between students and teachers and between students and other students are absolutely fundamental to the process and outcome of learning and teaching.
2. **LEARNING IS ENGAGEMENT**. While passive attending can result in learning, I believe students learn much better when engaged with content and with the process of instruction. Some of the best teaching methods incorporate active participation and one of our primary goals is engaging such participation.
3. **GROWTH IS DISCOVERY.** The desire for knowledge begins with wonder, carries through with pursuing curiosity and is driven by a need for the discovery and synthesis of knowledge. Good teaching enables students to satisfy wonder, exercise curiosity and associate what is new with what is already known.
4. **KNOWLEDGE IS APPLICATION.** We demonstrate knowledge when we apply it appropriately and effectively. It becomes evident and relevant when it is used. It is also the application of knowledge that serves to reinforce learning. It is how we test out and demonstrate its benefit.

It is interesting to note that each of these philosophical statements can also be read backward with equally significant meaning. **Dialogue is teaching. Engagement is learning. Discovery is growth. And application is knowledge.** And there are some days when I think these reversed versions make more sense.

William Foster wrote that "quality is never an accident. It is the result of lofty intentions, persistent and sincere effort, knowledgeable self-direction and skilful application. It reflects a series of intelligent choices among alternatives along the way." The key words are 'a series of intelligent choices along the way**.'** If we base the choices we make about the teaching practices we use on principles that effectively guide us, we make decisions that result in the skilful application of our education, experience, expectations and expertise. This, along with feedback from our own reflection, from colleagues and our students, helps us to shape a process of continuous improvement. Founded on guiding principles, the decisions we make as teachers lead to the **establishment of a supportive and engaging learning environment providing students and ourselves with a dynamic learning process and positive learning experience**.

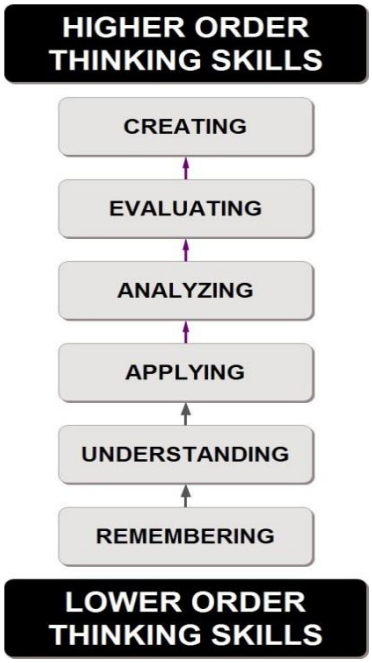
Teaching at the postsecondary level has changed a great deal in the past decade. We have seen shifts in our perspective on core educational issues. I emphasize six shifts I believe we need to consider when planning our work:

1. The **diversity** of our student population and the **multiplicity** in that diversity.
2. Our understanding of the **art** and **science** of teaching adults.
3. The role of **technology** in teaching practice.
4. The integration of **learning strategies** and **learning accommodations**.
5. The reconceptualization of the role of **adult learning principles**.
6. The need for substantial change in the way we **evaluate** performance.

These shifts in thinking have had and will continue to have a significant impact on the way we carry out curriculum **design**, the **delivery** of classroom instruction and our **evaluation** of student achievement and satisfaction.

Our student population has become ever more diverse. Beyond diversity, each group has within it its own multiplicity and the current emphasis in teaching is about 'multiformity' rather than uniformity – and certainly not conformity. Teachers who acknowledge and appreciate the adjustments necessary to provide a diverse student population with opportunities for success are the teachers who are most effective in engaging students because they adapt their design, delivery and evaluation activities accordingly. It is not about 'lowering standards,' 'dumbing down content' or 'lecturing to rather than engaging participation' in learning. It is about finding a different pathways for success in meeting expectations for 'higher education' and higher order thinking for an increasingly diverse group of adult and young adult students.

We are, after all, in the business of 'higher' education. And unless our expectations, for ourselves and for our students, reflect a commitment to higher learning and higher education, we lose sight of those goals. Higher education is not about rote learning and regurgitation – it is not about simply memorizing, remembering, understanding and repeating. It is about developing higher order thinking, as outlined in the revised Bloom's Taxonomy graphic on this page. Teaching adults is not as easy as some teachers make it look. If it were that easy, then every teacher in our institutions would teach equally effectively. Teachers who are committed to high-quality instruction produce a learning environment in which students excel academically and develop personally and interpersonally. It is my view that a **principle based approach** takes advantage of the opportunities that are provided by our recent shifts in perspective and provides students with the things they need in order to succeed in their academic program. These include:



1. Believing that they can succeed – a sense of self efficacy
2. Being treated as responsible – partnership / reciprocity in learning
3. Knowing instruction 'matches' their style – 'goodness of fit'
4. Being engaged in the learning process – participative learning
5. Having access to appropriate resources – adequately supported
6. Understanding what they are being taught – meaningfulness and clarity
7. Finding course content interesting and practical – relevance
8. Applying learning in a variety of ways – choice, multiplicity and flexibility
9. Succeeding early in a course – motivation and encouragement

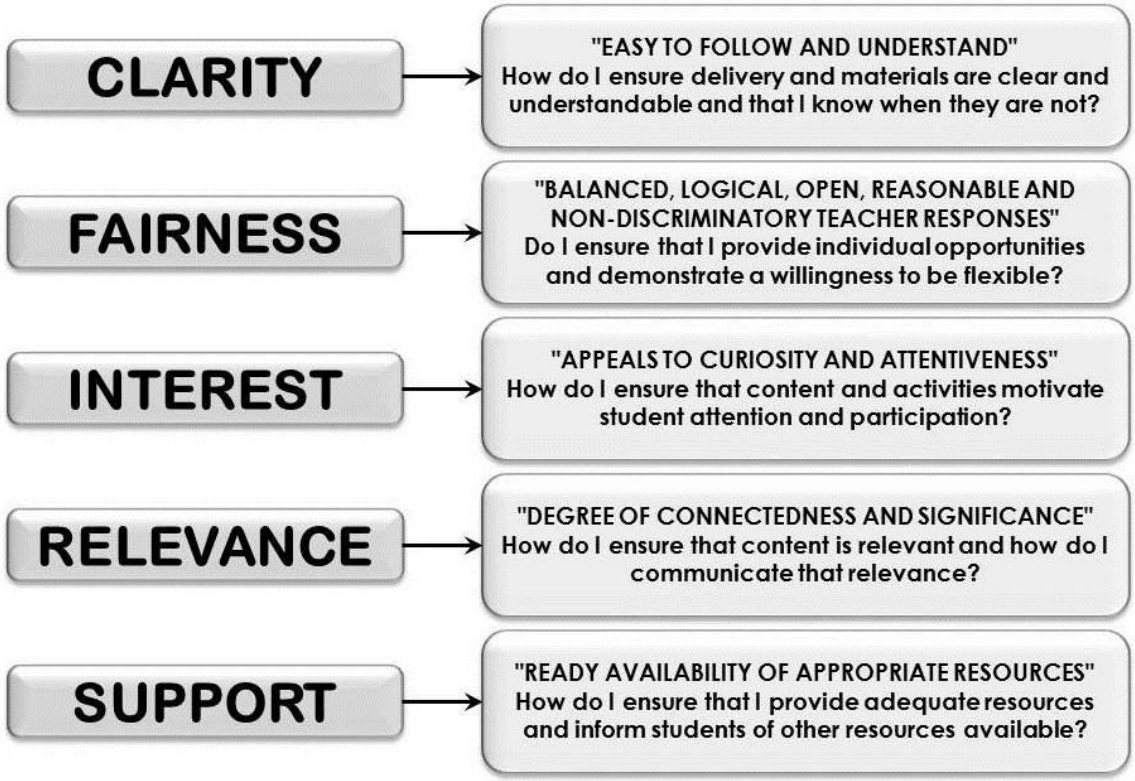
To do that, we as teachers must communicate the following messages to students on the first day of classes:

1. I know who you are (audience awareness)
2. I know what we have to accomplish (intended learning outcomes)
3. I will present you with choices in getting there (fairness and support)
4. I have an organized plan (syllabus/agenda/outline)
5. I will provide manageable information (clarity)
6. I will make the work appealing (interest)
7. Involvement is low-risk and high-reward (participation)
8. All ideas are important and valued (respect)
9. I will use our time productively (relevance)
10. I will help you to succeed (support)

FIVE ESSENTIAL PRINCIPLES FOR INSTRUCTIONAL PRACTICE

Most approaches to quality instruction are founded on a particular set of guiding principles. Often these principles are explicitly expressed. At other times, they are implicit in teaching practices. The work of a number of educational pioneers established an appreciation, growing consensus and eventual acceptance of a 'principle based' approach with the intent of universal application across a wide range of student experiences and capabilities. Having examined different sets of principles underlying postsecondary instruction, with a focus on the ways in which those principles influence teaching, I noticed common themes and then isolated what I saw as the most important principles that could influence decisions about curriculum design, delivery and evaluation.

A principle is 'an idea that influences you greatly when making a decision or considering a matter' (Cambridge dictionary). The five principles I believe best inform teaching practices are presented in the graphic that follows. I selected them very carefully. After using them for more than five years and discussing them with many teachers and students, I have found no need yet to modify them. They have stood the test of that short period of time quite well and have been adopted by many teachers with whom I have worked. These principles are not merely philosophical positions – they are practical criteria for instructional decisions. They act as reference points for excellence and I believe they offer teachers a reliable foundation for instructional practices.



As I noted, these principles are intended to influence instructional decisions. Applied to classroom activities, they suggest the following questions:

- Are the instructions, the purpose and the intended learning outcome(s) for this activity **clear** enough to be correctly understood by all students?
- Is this activity **fair**? Will all students be able to understand and participate in it as a learning exercise? What choices do they have? Is it related to course content and laid out in a logical manner?
- Will this activity add to my students' **interest** in content? Will they find it engaging and motivating? Will it stimulate curiosity and participation?
- Is this activity **relevant** to the intended learning outcomes for the course? Is it relevant to student expectations? To my instructional goals?
- Have I provided **support** for success in terms of information, curriculum content, discussion, interaction, activities and available resources?

If you are designing an assignment, then substitute the word assignment for activity. Remember - if a guiding principle is to be 'an idea that influences you,' asking ourselves these reflective questions is a way of using that guidance productively. In terms of what each of these principles implies, consider the following suggested activities.

Clarity is defined as **easy to understand**. It is about preparation and manageable information. Clarity begins with learning outcomes and continues through the use of understandable materials, texts and methods of delivery. It is about:

- Explicit teacher and learner expectations (in the course outline and syllabus).
- Information that is readable, understandable and easily managed.
- Advance organizers for each class to establish interest and focus.
- Checking for understanding to assess need for clarification or elaboration.
- Meeting accessibility standards for information presented and distributed.
- Instructional language that is understandable and minimizes technical terms.
- Encouraging students to expand on responses that might be unclear.
- Providing supplementary information and learning activities that foster clarity.
- Providing examples and illustrations that enhance understanding.

Fairness is defined as **balanced, open, responsive, reasonable, non-discriminatory and just** practices. It is about providing students with expectations, choices and alternatives and creating equal opportunity. It is about:

- Being open to alternative ways to arrive at the same outcome.
- Varying instructional and evaluation techniques responsively.

- Finding different ways to deliver curriculum so students demonstrate mastery.
- Offering and being open to alternatives for assignments, tests and projects.
- Setting reasonable expectations that can be met by all students.
- Presenting content in a variety of forms so students connect with curriculum.
- Ensuring tests and exams have a variety of question types.
- Providing a variety of formative active learning experiences.

Interest is defined as **the degree of appeal to attentiveness or curiosity**. It is about engaging students with curriculum content through its delivery, applying a set of teaching methods interesting enough to engage participation. It is about:

- Focusing on the most relevant content.
- Establishing an atmosphere in which interest in content and delivery is high.
- Creating an environment where participation is low-risk and high-reward.
- Varying activities to engage attention and sustain concentration.
- Using engaging guest lecturers with expertise in specific areas.
- Using group activities as methods for increased interest and participation.
- Shifting emphasis in response to the dynamic process of learning.
- Emphasizing material related to intended learning outcomes of the course.

Relevance is defined as **the degree of connectedness or significance**. It is about an emphasis on essential content that is important, applicable and related to their intended learning outcomes. It is about:

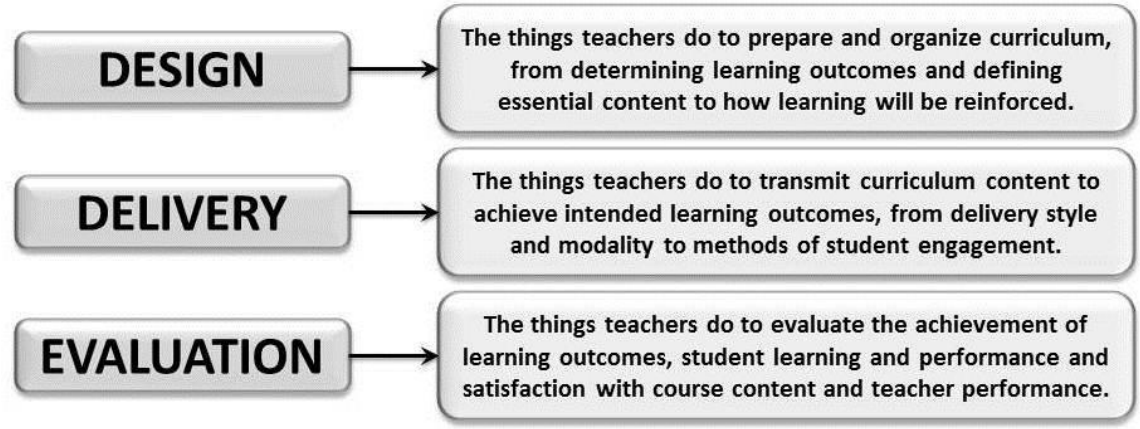
- Identifying the essential concepts and information in the course.
- Designing, delivering and evaluating learning in relation to essential content.
- Ensuring the text is appropriate to intended learning outcomes and well used.
- Ensuring that activities, resources and evaluation formats are relevant.
- Getting feedback from students on what is most relevant for them.
- Recognizing not all information in the text needs to be covered.
- Connecting course content to program and career context.
- Design, delivery and evaluation relevant to the modern world of work.

Support is defined as **the availability and promotion of assistance or resources**. It is about recognizing students do not arrive with all the knowledge and resources they need. It acknowledges the teacher's role in providing information about institutional supports to students. It is about:

- Setting up course websites with supplementary materials such as tip sheets.
- Providing class notes and PowerPoint slideshows online.

- Being available to respond to students who have questions or concerns.
- Explicitly reviewing essential learning skills in class.
- Explicitly reviewing the support systems available to students in the institution.
- Reviewing learning strategies in core skill areas.

The decisions influenced by the underlying philosophy and these five principles are related to the **three dimensions of teaching**, which include:



THREE DIMENSIONS OF TEACHING

DESIGN is about all of the things that we do before the first class in a course occurs, from identifying essential content and selecting a text to deciding on how furniture will be arranged.	CLARITY	FAIRNESS	INTEREST	RELEVANCE	SUPPORT
1. Defining essential content and ensuring the scope of content is built on intended learning outcomes.	✔		✔		
2. Sequencing content in a nested, laddered, logical or other format so there is a clear discernible flow.	✔		✔		✔
3. Determining a structure for delivery that includes teacher dialogue and active learning exercises.			✔	✔	✔
4. Integrating and applying adult learning principles and learning strategies into delivery and evaluation.		✔	✔	✔	
5. Selecting evaluation activities: type, number of elements and scheduling those activities.		✔		✔	✔
6. Ensuring accessible materials including an online copy of the text and a course-based website.	✔	✔			✔
7. Identifying available individual or institutional system resources to support student success.		✔			✔

DELIVERY is all about the various ways in which we transmit curriculum content to a diverse student group through defined instructional activities.	CLARITY	FAIRNESS	INTEREST	RELEVANCE	SUPPORT
1. Using advance organizers, introductions and conclusions for association with previous content.	✓	✓	✓		✓
2. Providing information that is clear, relevant, understandable, manageable and able to be processed by all students.	✓	✓	✓		✓
3. Using frequent checks for understanding to confirm learning and to determine need for clarification.	✓	✓		✓	✓
4. Adjusting delivery flexibly to respond to a need for clarification and to engage participation.		✓	✓		
5. Using guest lecturers for variety and to present specialized knowledge that is relevant to the course's intended outcomes.			✓	✓	
6. Using active learning exercises to facilitate interaction and cooperative learning.		✓	✓	✓	✓
7. Ensuring the appropriate use of available technology – especially in the use of PowerPoint.			✓	✓	

EVALUATION is all about all of the things that we do to measure academic achievement and student satisfaction with the course.	CLARITY	FAIRNESS	INTEREST	RELEVANCE	SUPPORT
1. Ensuring that the scope for graded work adequately reflects intended learning outcomes.		✓		✓	
2. Designing evaluation activities so they engage students in higher-order thinking.		✓	✓	✓	
3. Using early evaluation and prompt feedback to prepare students for subsequent evaluation.	✓	✓			✓
4. Using a variety of evaluation methods with appropriate weight in response to student diversity.		✓	✓		
5. Providing marking schemes (rubrics) as guidelines for performance to ensure grading is understood.	✓	✓			✓
6. Promoting early submission for non-graded preview and teacher comment/feedback.		✓	✓		✓
7. Evaluating student participation and satisfaction as well as student achievement in the course.		✓	✓		

Generally I have found that teachers spend about 35-40% of their time on course design, about 40-45% on course delivery and about 15-20% on evaluation. This varies, of course, depending on whether you are teaching a course the first time or the tenth time, and on your decisions about the kinds of evaluation activities to build into your evaluation protocol.

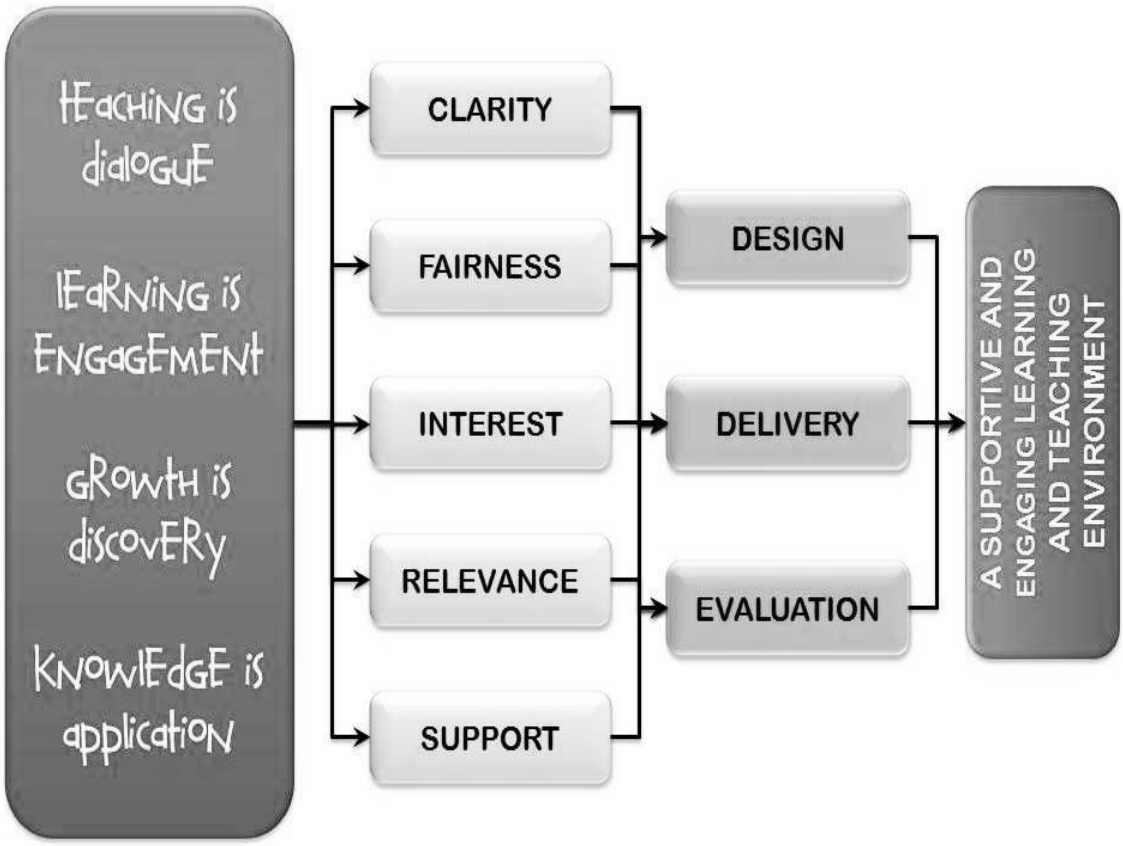
I am sure that others can add any number of specific techniques or methods to each of the dimensions of design, delivery and evaluation. The previous tables highlight just some examples of the ways in which teachers use instructional practices to ensure quality in these three dimensions of teaching.

And our methods and approaches continuously evolve. **Teaching is about change**, as with all other professions, change that is for the most part evolutionary – and occasionally revolutionary – but a process of continuous adaptation driven by changes in educational policy, technological innovation and the shifting demographic characteristics of students and the labour market. We simply shift as well, carried along on the waves, doing our best to forecast and anticipate and integrating that knowledge into our teaching practices.

Sir Ken Robinson, in a lecture entitled 'Escaping Education's Death Valley,' talks about the tasks and intended outcomes of teaching, focusing on the fact that the role of the teacher is to ensure learning, and that if students are not learning, then teachers are not achieving their intended goals. If was are to engage students in learning, he suggests, then we benefit by focusing on the particular kinds of teaching activities that respect the broad diversity of our student groups, the importance of engaging their curiosity and the value in supporting their creativity. I believe that the strategies in this book are among those which succeed in doing so.

THE ULTIMATE GOAL OF PRINCIPLE BASED PRACTICES

The result of developing a philosophy of teaching adults, defining a set of principles to influence decisions about teaching practices and applying that philosophy and those principles to the three dimensions of teaching – design, delivery and evaluation – is the production of a supporting and engaging learning and teaching environment as summarized in the graphic below.



FACILITATING BARRIER FREE LEARNING

The term 'barrier-free' suggests a level of perfection I believe is unattainable. It is not about perfection, but about continuous improvement in our ability to offer effective educational opportunities to an increasingly diverse student group. A barrier is an obstacle and I have always believed that there are four ways to deal with obstacles – over, under, around or through. And while many barriers to effective learning are genuine, some are imaginary. They are illusions – scary things that worry us only until we understand and appreciate them. And this has been proven with such things as 'if we provide more information in advance, students will not come to class.' The opposite has been shown to be true.

Every barrier is an opportunity for our skill development. **And each time we find ways to reduce barriers to student learning, we reduce barriers to our own enjoyment and satisfaction as teachers.** It is a matter of reciprocity and mutuality. Over the past few years I have been fortunate to work with hundreds of students and hundreds of teachers in different colleges, discussing teaching, learning and the changing demographics of entering students. I have drawn the following generalizations, recognizing they are generalizations but knowing that these generalizations can apply to most of this population.

1. They are **reluctant readers** (not non-readers as some have said) in relation to what we expect of the reading behaviours of adult students.
2. They are **technologically dependent**, some might say addicted, though I prefer obsessive (always thinking about) and compulsive (always engaging in) a small number of technologies, but not as technologically skilled as many of us might believe they are.
3. They prefer **passive learning** to **active learning** and like to receive information (be taught to) rather than participate in the learning process.
4. They are **dependent** on **teacher-provided content** and **resources** (e.g. notes, postings on BlackBoard or WebCT).
5. They have **limited capacity** for **sustained focus** resulting in short attention spans and easy distractibility.
6. They are **not proficient in higher order thinking** though quite capable of it when shown how and expected to.
7. They find **expressing ideas** verbally and especially transmitting knowledge in writing quite challenging.
8. They are **increasingly anxious about the labour market** and careers and may choose academic programs not out of interest or passion but because they believe that program will lead to well-paying, secure employment.
9. They use **transactive** rather than explicit memory as their modality – meaning that if they know where to find information, they do not invest in memorizing that information – and I view this as a strength and important consideration in how we teach and especially how we evaluate their learning.

In the balance of this book, I want to recommend teaching practices that respond to the changing demographics, needs and expectations of entering students as well as the philosophy and guiding principles I promote. I believe these practices result in student engagement and success and that they enhance teacher enjoyment and satisfaction. This is not the definitive list of 'best practices,' but an overview of some of the most important practices I believe produce **a supportive and engaging learning and teaching environment**.

Our goal in developing teaching practices is to facilitate and encourage student success behaviours. To do so, we need to ask ourselves a few questions:

- **What do I do to encourage students to prepare?** Do I use summaries to motivate preparation for the next class? Do I provide advance organizers? Do I make time to work with students?
- **What do I do to encourage students to attend**? Do I make class time and activities interesting? Do I engage students in higher order learning activities? Do I introduce new and interesting material?
- **What do I do to encourage students to participate**? Do I make participation low-risk and high-reward? Do I coach students about how to participate? Do I make it easy for students to get involved?
- **What do I do to encourage students to work efficiency**? Do I provide clear outlines for assignments with detailed marking schemes? Do I suggest how much time they should commit for assignments?
- **What do I do to encourage student to reflect and review**? Do I provide a preview and summary in each class? Do I suggest what material they should review? Do I encourage reflection?

It is not about the 'latest' method or fad. It is about integrating tried and proven methods of teaching that produce the environment and outcomes that we find enjoyable and satisfying. And it is about integrating those methods in a manner that fits your personal instructional style and objectives.

ENGAGING INSTRUCTIONAL PRACTICES

It is my belief that the teaching practices that follow in this book, some of which you may already be doing and others that you might find interesting and helpful, will reduce barriers to student engagement and success and lead to teacher enjoyment and satisfaction. But I do not and would not expect anyone to try to build all of these or other practices into their instructional methods overnight. What is important is having a defined process of continuous improvement where we develop and incorporate practices over a period of time, focusing on quality of our instruction rather than the number of new things that we try.

The table below indicates which of the five principles are met simply by the implementation of these practices. The quality and style with which they are employed will, I expect, result in the other principles being met as well.

	CLARITY	FAIRNESS	INTEREST	RELEVANCE	SUPPORT
1. **Standards** for instructional practices	X	X			X
2. The use of **advance organizers**	X	X	X		X
3. A focus on **essential content**	X		X	X	
4. The use of **previews** and **reviews**	X	X	X	X	X
5. The application of **adult learning principles**		X		X	
6. Engaging student **participation**		X	X	X	X
7. The use of **active learning group** activities	X		X	X	X
8. **Open book** testing	X	X	X	X	X
9. A **process approach** to assignments	X	X		X	X
10. The use of **technology**		X	X	X	X

THE IMPORTANCE OF STANDARDS

A standard is defined as a required degree of quality or attainment, especially in a professional practice. Standards are guidelines, benchmarks, ways to evaluate the quality of our teaching performance and that of our students. Here are my suggestions for some key standards that reduce barriers to learning.

1. **Hours of work outside class.** My guideline for students is 1 hour of preparation for each class and 2 hours of time for every 5% of what a test or assignment is worth. So, for a 20% assignment or test, I expect that most students will need to commit 8 hours of time – and I design tests and assignments accordingly.
2. **Test/assignment value.** No assignment should be worth less than 15%, none should be worth more than 30%. In that way, all assignments are significant in value but no single assignment can determine success or failure in a course. An exception: bonus items, which I suggest should be worth at least 10%.
3. **Early graded feedback.** Students should receive some form of graded feedback by week 3 or 4 in a semester. This can be as simple as a writing sample (a helpful way to appreciate students' writing and language skills); a short open-book quiz or a basic mind map.
4. **How many pieces of evaluation.** I have found that the average is 5 pieces of evaluation, often including an early quiz; a short assignment; a midterm test; a somewhat larger assignment; and a final test or examination.
5. **Relevance of evaluation tools.** Do assignments and test questions relate clearly and directly to the intended learning outcomes for the course? They should – and students should be able to see this connection.
6. **Forms of testing.** I suggest the only form of testing supported by a principle based approach is the open book test. I cover this in more detail later. And all tests should include a variety of question types – no test should be made up on only one type of question – especially multiple-choice.
7. **Provision of grades back to student.** In most cases, we should have grades back to students within one week.
8. **Grading for classroom participation.** My suggestion is that participation should always be graded and I deal with this in more detail later. It may be part of the course grade or a bonus mark, but if we believe participation is central to higher education, it should be graded.
9. **Penalties for late submissions.** The most common penalty seems to be 5% per day. I use a penalty of 10% per day. I would note that all assignments for the semester should, wherever possible, be communicated on the first day of classes, none being introduced after that time, so that students have ample time schedule time across the semester in order to complete assignments.

You can readily see that these standards relate primarily to the evaluation of learning and performance – and, in my view, this is the teaching dimension in which most work and most improvement is needed and possible.

In selecting evaluation methods for a particular course, teachers consider several things, including:

Intended learning outcomes	Is this evaluation activity – type, content and product – consistent with intended learning outcomes?
Relevance to course content	Do evaluation methods assess content mastery and application? Do they require higher order thinking?
Teacher preference	What evaluation methods does the teacher feel provide the best evidence of student achievement?
Student interest	Will the evaluation activities engage students' attentiveness and curiosity?
Validity / reliability of grading the work	Does the grading system fairly assess performance? Is there a grading scheme that guides student effort?
Fairness / flexibility	Do all students have an opportunity to perform well on the evaluation activity? Are there choices?
Ease of design	How easy is it for the teacher to design, develop and implement this evaluation activity?
Ease of administration (especially tests)	How easily can this specific evaluation activity be administered to students?
Ease of marking	How complicated and time consuming is the grading process for the evaluation activity?

These and other evaluation considerations help teachers to choose methods of evaluation that are clear, fair, interesting, relevant and supported. As a result, principle based decisions about evaluation contribute to student success in managing the course and teacher success in delivering the course.

THE IMPORTANCE OF ADVANCE ORGANIZERS

You will notice that many textbook chapters begin with an overview or preview and end with a review or summary. These establish key information and focus readers so they attend to that information. These are advance organizers, tools that we use to orient students to the topics to be covered; to outline the preparation required for a class; and to engage students in planning practices. David Ausubel described advance organizers as helpful tools that are sent "in advance of the learning material and at a higher level of abstraction, generalization and inclusiveness" than the content itself.

My advance organizers are usually brief and more often than not ask students to reflect on two or three questions. They can be more elaborate if I feel that would be helpful to students. However, in general, students ask for and respond best to advance organizers that are short, to the point and relevant. When designed effectively, advance organizers:

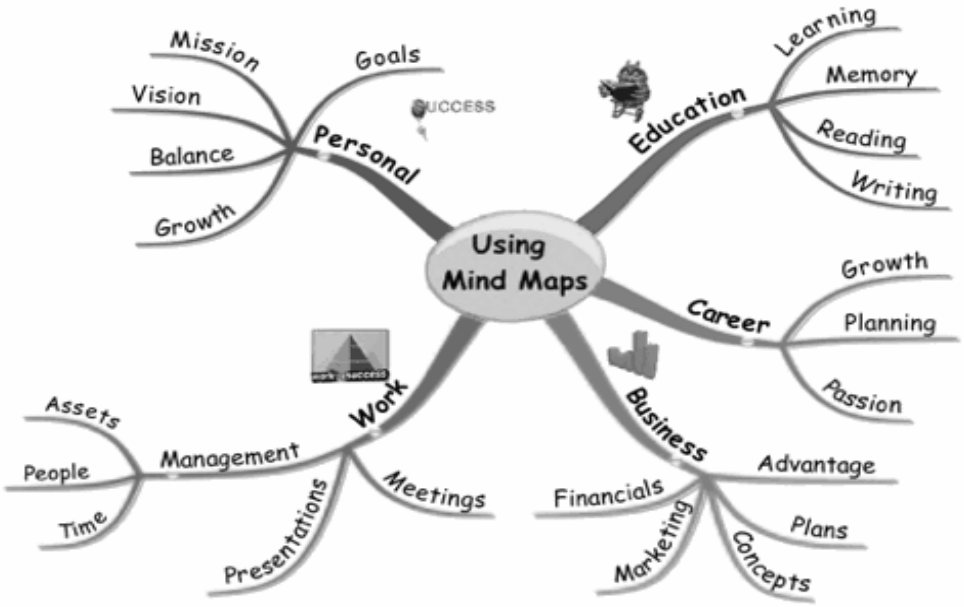
- **direct attention** to what is important in the new materials
- **highlight relationships** among the ideas to be presented
- **remind** students of important related information they already have

It is my view that most students process verbal information (narration / writing / reading) better if they have visual references (graphics, charts, tables, lists, pictures, mind maps) to support content learning. Depending upon the student group and its diversity, advance organizers can be text, such as:

> Next week we will be dealing with leadership and motivation. Please read chapters 8 and 9 in your textbook and consider the following:
>
> - Identify someone you feel has leadership characteristics, according to the competencies / characteristics list, but who is <u>not</u> a political or business leader – someone who may not have the position or title of leader.
> - Think about the last person you reported to at work – what leadership competencies / characteristics did they demonstrate most consistently – which did they not?
> - Reflect on your Myers-Briggs style and think about how you would describe your own leadership style?
> - Are leaders born or made? Reflect on this and be prepared to give and explain your opinion on this question.

Depending upon the student group and its diversity, advance organizers can be graphical, such as that below, along with a question such as: 'Consider the elements of a creative workplace suggested by the graphic. Think about the last place that you worked and apply these elements to that workplace. How creative a workplace was it?' What made it so? What was missing?

Depending upon the student group and its diversity, some advance organizers that engage students the most are simple mind maps, such as that below:



From: http://dynatips.com/what-is-mind-mapping/

One of my most effective advance organizers is the class preparation note. I ask students to hand this in at the beginning of each class. It ensures that they do some preparation for class, and, as it is graded (typically 15% of their final mark), they find it a meaningful and worthwhile exercise to complete. I advise them to keep a copy as it also becomes a useful study tool.

CLASS PREPARATION NOTE

Name:		Student #:	
Topic:		Date:	

10 Things that I learned while preparing for this class:

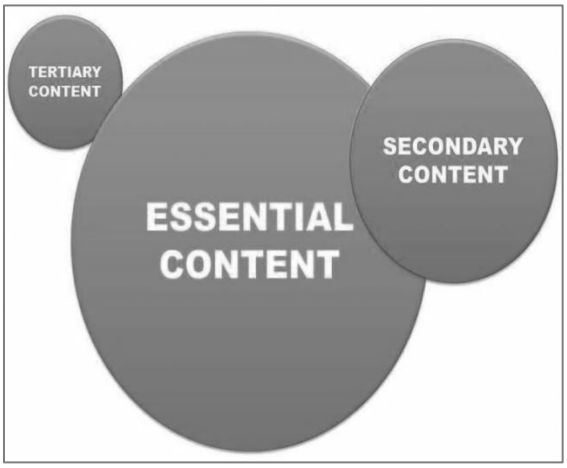
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

If advance organizers are designed well, considering the student group and the course intended learning outcomes, and used effectively, students will:

- Have previewed essential content – so are hearing some things the second time – and that leads to better information processing
- Know what they do not have to make notes on and can just listen to
- Know what they have to make notes on – and do so
- Be able to participate more meaningfully in discussions and activities because they have the information on which to base participation

THE IMPORTANCE OF A FOCUS ON ESSENTIAL CONTENT

Teachers naturally group content into one of three areas that are depicted in the graphic to the right.



Essential content is content necessary for students to achieve the intended learning outcomes defined in the course outline. In most college and university outlines, intended learning outcomes are general enough to allow teachers flexibility in selecting content. **Supplementary** content is additional content material that supports the achievement of those same intended outcomes. This is often such things as related examples, illustrations, stories and case studies. **Tertiary** content is material which, while less directly related to intended learning outcomes, may be of particular interest to teachers and, in the view of those teachers, would be relevant, helpful and of interest to students. But it should be used sparingly.

This focus on essential content benefits students by identifying not only what <u>is</u> important but what is <u>not</u> important. When I talk with teachers who say they don't have time to cover all the content they want to cover, it is often that they are covering content that is not essential to meeting the learning outcomes of the course or that they are not applying the adult learning principle of 'shared responsibility' (this is covered later). A focus on essential content is time-efficient and, in my view, allows teachers to develop learning activities that can successfully engage student focus and participation.

Once essential content has been identified, teachers will choose to organize the delivery of that content in a nested, laddered, logical, text-based or interest-based sequence and lay out supplementary material accordingly.

A few years ago, I watched a video called 'The Five Minute University' by a comedian named Dan Novello (character name 'Father Guido Sarducci). It was a satirical piece with a core message that I found quite meaningful. His premise was that we should teach only the information that we believe students will remember five years after leaving college. That's a little excessive, and comedy is often an intentional exaggeration, but it made me appreciate the merit of a focus on essential content.

Now, as part of the course design process, I write out the 10 (occasionally more) things I want students to remember three years after they complete the course. It helps me to define essential content. For example, 10 things I want students in the Principles of Management course to remember three years from now:

***ILO** – Intended learning outcome for the course

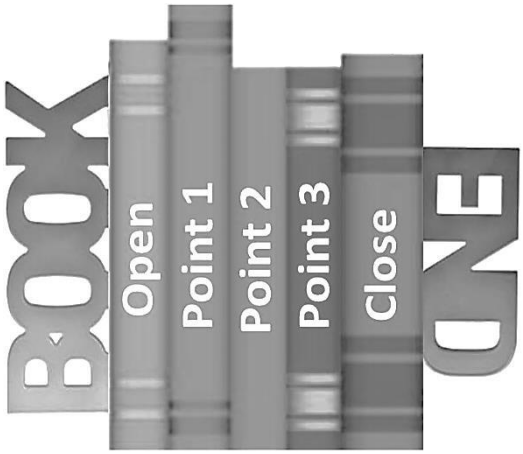
	***ILO 1**	**ILO 2**	**ILO 3**	**ILO 4**
1. Managers have many tasks and responsibilities, but one job – to ensure the success of everyone that reports to them		**X**	**X**	**X**
2. The purpose and significance of vision, mission and values		**X**	**X**	**X**
3. The techniques of effective managerial communication		**X**		**X**
4. An awareness of the most significant challenges facing managers in a global economic environment		**X**	**X**	**X**
5. The essentials of planning (establishing vision and mission; setting goals; defining strategies; allocating resources)	**X**		**X**	
6. The essentials of organization (establishing structure; establishing lines of authority; allocating resources)	**X**		**X**	
7. The essentials of leading (communicating a vision; energizing employees; evaluating performance)	**X**		**X**	
8. The essentials of control systems (establishing processes to regulate, monitor and provide feedback on individual and organizational performance)	**X**		**X**	
9. An appreciation of diversity as an organizational asset		**X**		**X**
10. How to build and maintain environments that foster communication and creativity and that reduce conflict		**X**		**X**

It is an interesting exercise to define core and sustained learning for the courses we teach, but it also helps define, in the context of intended learning outcomes, what the essential content is that must be delivered. I recommend that you try this for the courses that you teach – it is informative and developmental.

THE IMPORTANCE OF PREVIEWS AND REVIEWS

There are times when, in a rush to cover content, we forget something simple that is important to the way students process learning. When ministers, pastors and priests are being trained, there is an axiom emphasized in their delivery of sermons – 'tell them what you are going to tell them; then tell them; then tell them what you told them.' It is a simple rule, to be sure, but an important one. Just as we find that the weaker parts of student essays and papers are most often the introductions and especially the conclusions, sometimes we forget how important previewing and reviewing are in teaching, not only for us, but as models for students in the importance of previews and reviews.

Our introduction outlines for students what will occur during the class and what matters most. We use introductions or previews to connect past learning to what will be learned that day and:



- To **set the tone and context** for the lesson to be taught
- To **inform** students of the information/content they can expect
- To **prepare** students to process the information to be presented
- To outline the **process** and **activities** for that class
- To discuss **prior learning** with which current content can be associated

Our conclusion or review wraps up the class and highlights main themes and concepts. The closing summary's functions include:

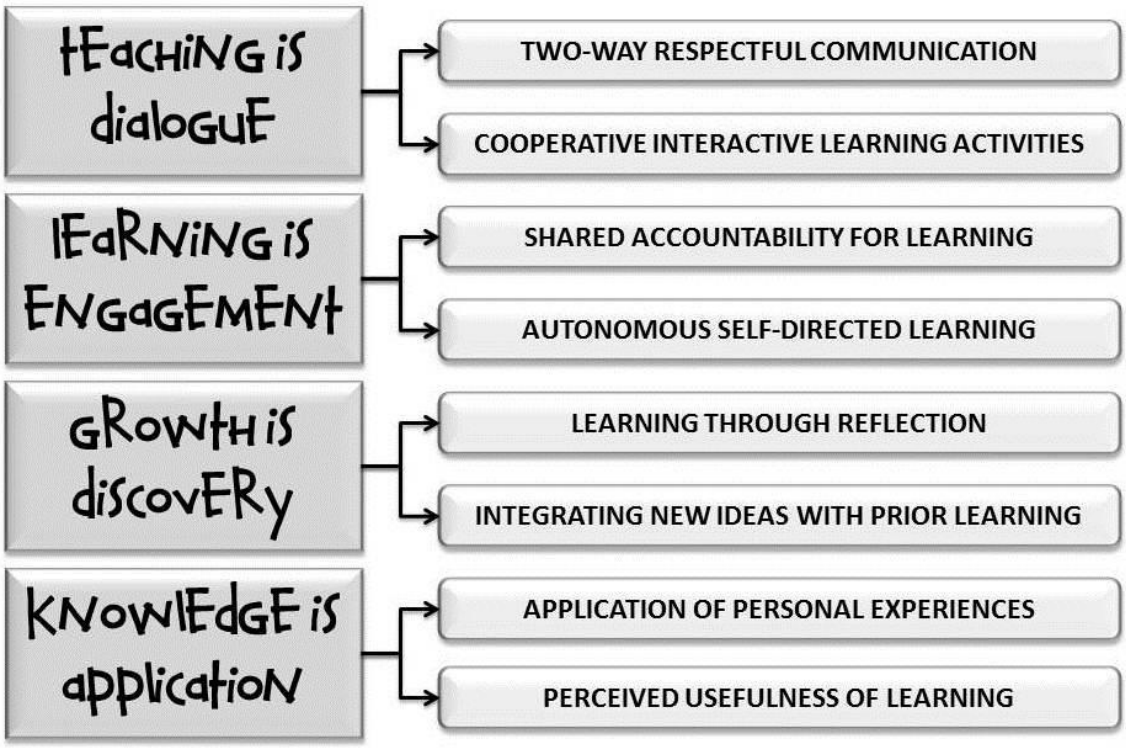
- To **restate** the main themes
- To take the bulk of information and **highlight** the **essentials**
- To **repeat key** words, phrases and **concepts**
- To connect **content to** the intended learning outcomes of the course and to the **content** to be covered in the next class

It is my practice to write out, word for word, the introduction/preview and summary/review I will use for each class. By doing so, I ensure:

1. That they include what I want to say
2. That they are precise and comprehensive
3. That they achieve their purpose of orienting students and linking content
4. That they will actually be used, not overlooked as time runs out

THE IMPORTANCE OF ADULT LEARNING PRINCIPLES

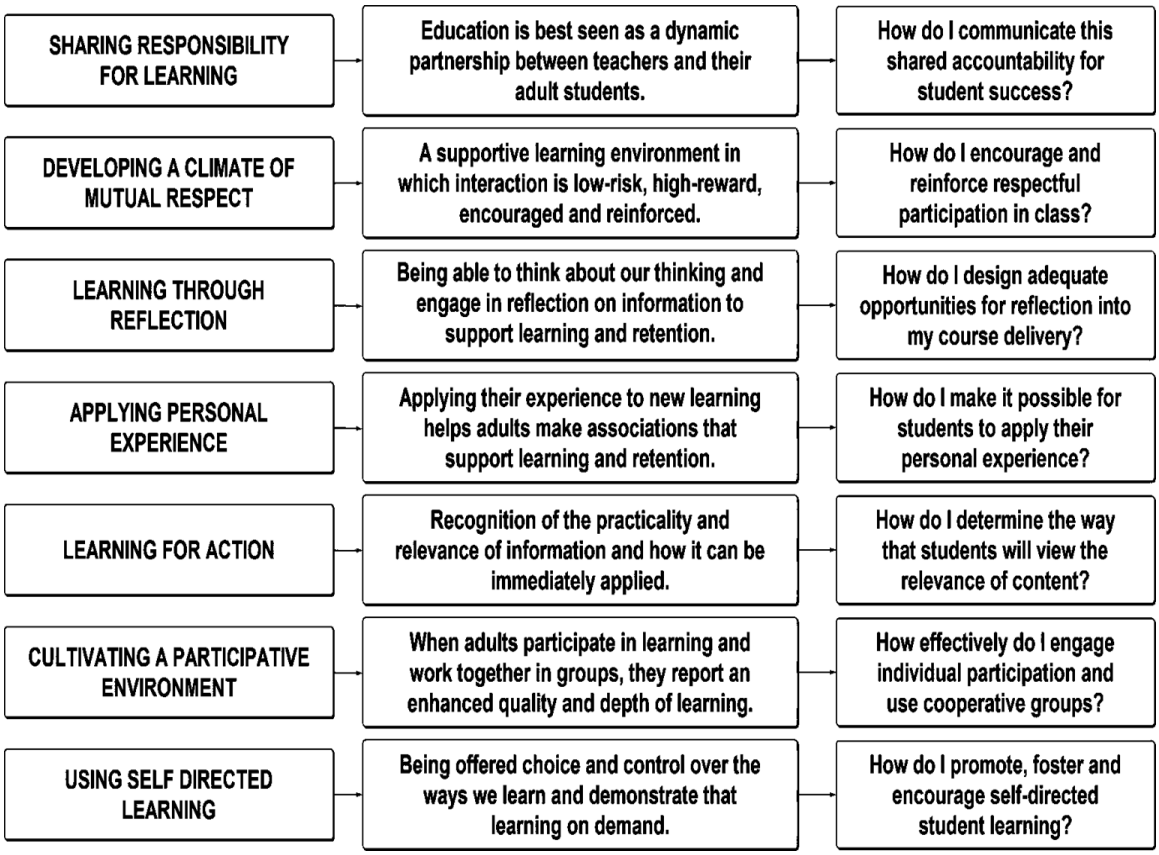
It is not that we as teachers don't appreciate the important of adult learning principles, but I have found that many teachers do not consider them explicitly in their curriculum design and delivery planning. And that is unfortunate, for they fit comfortably with our philosophies of learning and teaching, and an example of that fit provided in the graphic below:



It was in 1990 when Malcolm Knowles first distinguished pedagogy from andragogy by presenting his six (6) assumptions about adult instruction. Many educators feel this was one of the most important and influential ideas in education. These assumptions now seem self-evident:

• **The need to know:** adults expect to understand the relevance of a course to their learning needs.	• **The learner's self-concept:** adults are mature, responsible individuals who are capable of self-direction.
• **The role of experience:** adults have experiences that are rich and important learning resources.	• **Readiness to learn:** adults need to share in decisions about what is to be learned and when.
• **Orientation to learning:** adults see learning as necessary for performing tasks or solving problems.	• **Motivation:** adults' intrinsic motivation is often more important in learning than extrinsic motivation.

"The reasons most adults enter any learning experience is to create change. This could encompass a change in their skills, behaviour, knowledge level or even their attitudes about things (Adult Education Centre, 2005)." Factors that influence adult learners include their degree of motivation, previous experience and level of engagement with the learning process and how they apply what they learn. An intentional application of adult learning principles takes these factors into account in design, delivery and evaluation. The graphic below summarizes the application of adult learning principles and questions that we can ask ourselves as part of that implementation.



An example of adult learning principle application: A teacher was approached by a student who was dissatisfied with a grade on an essay. Typically, the teacher would have re-graded it. However, the teacher felt a detailed and fair marking scheme had been used and that papers had been marked according to that rubric. Instead of remarking the paper, the teacher applied 'shared responsibility.' The teacher gave the student anonymous copies of essays that had received an 'A' and which had received a 'C.' The student's task was to review these papers, compare them and return to make a case for additional marks. The student did so and feedback from the student indicated an

appreciation of the **shared responsibility** and recognition that more about the topic was learned by reviewing other essays for comparison.

Another example: The selection of active learning exercises is influenced by the adult learning principles of **learning by reflection** and **applying prior personal experience**. That means we emphasize the use of such exercises as think-pair-share; buzz group; peer interview/survey; graffiti posters; round table; card sort; and matrix, which may be some of the most relevant active learning exercises. (See the section on active learning exercises). These exercises allow students to apply adult learning principles in collaboratively – and productively.

A third example. The three principles of **shared responsibility, self-directed learning** and **learning through reflection** mean students are expected to arrive at class prepared for the material to be covered. If teachers support these principles, they do not feel obliged to cover content students were expected to review in preparation. This would free teachers to work with content in relevant and inventive ways rather than covering it to compensate for students who have not prepared as expected.

A fourth example. When assignments offer students alternatives we are applying adult learning principles. For example, when a finite topic list is provided from which students choose a topic, we can add "and any other topic which, with prior teacher approval, can meet the same learning outcomes and be graded with the same rubric." This permits **autonomy**, **student participation in defining the assignment** and recognition that varying experiences provide different funds of knowledge and perspectives toward assignment completion.

The implementation of adult learning principles into our design, delivery and evaluation also demands that we describe and explain our expectations for students in relation to these principles so students understand the implications of engaging as adults in their own learning experiences.

THE IMPORTANCE OF ENGAGING PARTICIPATION

The value of student participation is well documented. The grading of student participation, on the other hand, has been significantly more controversial. In some settings, teachers are encouraged to grade student participation. In others teachers are discouraged from doing so. Many teachers grade classroom participation as a bonus mark. In their study, Dallimore, Hertenstein and Platt identified six categories of faculty behaviour that can enhance student participation. The first of their findings was that "graded and required participation is a major category that emerged for both quality and effectiveness. (Student) respondents repeatedly identified the importance of graded participation, suggesting that instructors ought to 'make it a significant part of our grade.' When asked what a professor says or does to increase the quality of student participation, grading and requiring participation were regularly mentioned." After reviewing related articles and comments from various faculty members and students, it seems that:

1. Students do not really take participation marks seriously unless these marks are part of the overall course grade and not simply bonus marks.
2. Students do not take participation marks (or other marks) seriously unless they are at least 10% of the final mark in the course.
3. Students need a clear and definable grading/marking scheme or rubric for participation in order to put forth effort for those marks.

I recognize that there are two arguments raised against grading participation as part of the overall grade. Some say that it is unfair to students who are shy or who feel their verbal skills or mastery of course content is inadequate. As a result, they may hesitate (or decline) to make a comment, respond to a prompt or ask a question. Others say that classroom participation in and of itself does not necessarily reflect content acquisition.

The issue is not about the fairness or unfairness of grading participation but is whether or not classroom participation is seen as essential to postsecondary learning. As with any graded work, students can choose not to do what is necessary to earn those grades. The research is very clear – participation enhances the quality of adult learning. If so, then participation must be a part of the overall grade for the course. I find there are four fundamental teaching practices that underlie success in engaging participation:

1. Teachers need to create a supportive learning environment in which **participation** is seen as **low-risk** and **high-reward**. There are a set of specific skills in rapport-building that help develop such an environment and communicate it to students through both word and action. These strategies

range from the power of a simple friendly greeting to how teachers respond to a variety of student responses to being invited to contribute.

2. Teachers need to understand the **learning strategies necessary for student participation**. These include active listening, note-making, questioning, verbal expression, written expression and working in groups – to name a few.
3. Teachers have to take **responsibility for becoming good observers of student participation**; and, in larger classes, this may be challenging.
4. Teachers need to present a **clear** and **relevant** rubric or **marking scheme** (mine is presented below) that outlines how participation will be graded and, in doing so, indicates which specific behaviours will contribute to grades.

NAME: _____		
Participates in most classes without prompting	**3.75**	
Makes relevant contributions that advance discussions	**3.75**	
Responds appropriately to direct questions from the teacher	**3.75**	
Participates constructively in active learning exercises	**3.75**	
	TOTAL:	

The weighting for this rubric is based on participation being 15% of the final grade. It can be adjusted as necessary if participation is weighted differently. The rubric is uncomplicated and identifies four specific, observable behaviours that I used to collectively determine the grade for participation. I have seen participation rubrics that include such things as the teacher's perception of the students' degree of preparation for class, which cannot be observed – but I believe all criteria in the rubric should be observable.

I also appreciate that there are times, such as when teaching classes of 90+ students that it is not feasible to mark for participation in this manner. While that is unfortunate, it may be the reality for some teachers.

THE IMPORTANCE OF ACTIVE LEARNING GROUPS

The research on and experience with active learning exercises confirms that they have become an essential part of teaching adults. Active learning is any activity that engages students in doing things and thinking about the things they are doing. In these exercises, students talk, listen, discuss, debate, read, write and reflect on content through a variety of activities that require them to interact with each other toward a collaborative outcome. These exercises ask students to listen, speak, interact and work and play with others about ideas, concepts and information – with the goal of producing shared learning.

The active learning exercises in the table that follows require little in terms of resources. Those with arrows are the exercises students indicate they find most engaging. The fact that they require little in terms of resources does not mean teachers do not have to prepare for them. The success of the exercise depends entirely on how they are designed, presented, explained, guided and reflected upon. For each exercise, teachers first:

- **Explain the activity**. Is your explanation clear? Concise? Brief? Written?
- **Clarify the intended outcome**. What do they have to produce?
- **Outline a process**. How do they carry out the exercise? What are the steps?
- **Give an example**. Outline similar exercises or model a sample response.
- **Review any rules/guidelines**. What are participation and contribution rules?
- **Set a time limit**. What is a reasonable time limit (see note later)?
- **Provide a prompt**. Will it be a direction? A quotation? A question? A case example? A written statement? A fact sheet? A handout? An article?
- **Check for understanding**. Is everyone clear on the process, time limit, guidelines and intended outcome?
- **Facilitate reflection on the exercise when completed**. What did they accomplish? What did they learn? How can this information be used?

Most teachers who use active learning exercises use 3-4 different types over the course of the semester, using their favourites most often. I encourage teachers to select exercises based on their relevance for content and the intended outcomes, and to consider student preference as well as their own.

CATEGORY	ACTIVITY	TIME	DIFFICULTY	RESOURCES REQUIRED
DISCUSSION ✓	Think-pair-share	5-10 min	Low	None
	Placemat	10-20 min	Low	Flip chart; markers
	Round robin	5-10 min	Low	None
✓	Buzz group	5-10 min	Low	None

	Peer interview / survey	15-30 min	Moderate	Survey questions
	Debate	30-60 min	High	None
	Reading quiz	30-45 min	High	Article/questions
RECIPROCAL	Note comparison	5-10 min	Moderate	None
	Learning group (quiz)	15-30 min	Moderate	None
✓	Fishbowl	30-45 min	Moderate	None
	Role play	30-45 min	High	None
	Jigsaw	45-60 min	High	Task assignments
✓	List-making (T pro-con lists)	10-15 min	Moderate	None
PROBLEM SOLVING	Case study	30-45 min	Moderate	Notes / questions
✓	Structured problem	30-45 min	High	Problem/rubric
✓	Analysis team (SWOT; PEST)	30-60 min	High	Issue / template
	Group investigation	60-90 min	High	Issue / template
GRAPHICAL	Card sort	15-30 min	Moderate	Cards
	Matrix	15-30 min	Moderate	Matrix form
	Sequence mapping	15-30 min	High	Sequence form
✓	Knowledge café	30-60 min	Moderate	Poster paper
✓	Demonstration	10-30 min	Moderate	Materials
	Mind map/ word web	15-45 min	High	None
WRITING	Round table	30-60 min	Moderate	None
	Write-pair-share	10-15 min	Moderate	None
	Peer editing	30-45 min	High	None
✓	Minute paper	5-10 min	High	None
	Paper-based seminar	60-90 min	High	Article / questions

Note: One question teachers ask is how to best determine the length of time to give students to complete an exercise. Often our own experience with a particular exercise can dictate that, but here a couple of suggestions from teachers with whom I have worked:

1. How long would it take you? Give student groups three times that long.
2. How long would it take your best students working together? Double that.

Another helpful tip is that when one group is done, rather than leaving them to chat about other things not relevant to the classroom activity, direct them to distribute themselves among groups still working on the activity so they can listen and contribute to those groups.

THE FALLACY OF GRADED GROUP ASSIGNMENTS

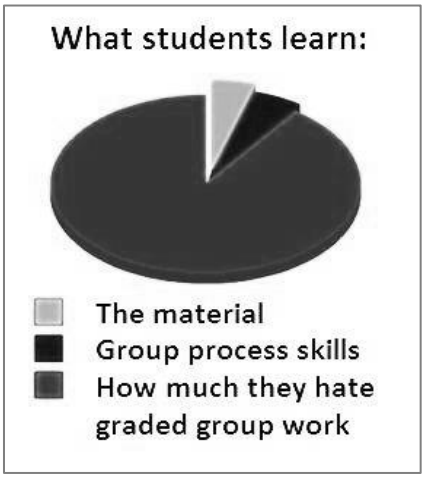
Having advocated for the broad use of active learning groups in class, I want to be clear that **I do not support the use of graded group assignments**. I like to say they were designed by the devil to show students and teachers what an eternity in hell would be like, but in a more serious tone I believe they are a detriment to learning and to the notion of group process. Spenser Kagan is one of a number of educational specialists who write passionately in opposition to graded group assignments. Kagan writes that "although we are enriched by variety, some methods are not good for students and not good for education. Group grading is one such method which should be abandoned. Although variation creates a colourful, rich garden, we must rid the garden of some weeds if the garden is to remain healthy." In various professional articles he and others argue that group grades are unfair, undermine motivation, communicate to students their grade is a function of forces beyond their control, violate individual accountability and create resistance to cooperative learning. Strong statements that Kagan, for example, illustrates with the following scenario:

> "Much of the argument against group grades is provided by a simple thought experiment. In our experiment we will imagine two identical students. Of course, in reality no two students can be identical. But for purposes of this simple thought experiment we will imagine two students who are identical with regard to ability, motivation, the work they perform and the learning they achieve. Now we place these two imaginary identical students in different groups in a class which uses group grades. Both students work hard and contribute the same amount to their respective groups. One of these two identical students happens to end up in a group with very motivated students whose skills complement each other well. They function well together as a group. Naturally, their group project is excellent and they all receive a top grade. The other of the two identical students happens to end up on a group with unmotivated students, or teammates who dislike each other, or students who are in a power conflict, or students whose abilities or styles simply don't mesh well. Their group project naturally suffers and they all receive a much lower grade. In our thought experiment two students with identical ability, work, motivation and learning end up with quite different grades!"

The argument that graded group assignments prepare students for the world of work is irrelevant. It is group work, the ability to develop skills in cooperative work and collaborative learning that matter and I suggest these are best learned during in-class group activities in which the teacher can model, mentor, monitor and measure the groups' efforts. In that case, it is the quality of the design and implementation of the group activity that matter most to the development of importance skills in cooperative learning, and we are responsible for the design of active learning exercises that support this.

Having clearly stated my objection to graded group assignments, I am painfully and disappointingly aware that some teachers will continue to use them. So, for those who still feel they must, here are some guidelines that can reduce the barriers to success that graded group work create:

1. Give students the option of doing the project individually and design the project accordingly - so it can be done by one person.
2. Set the group size between 2 and 4. In my experience, pairs of students tend to work better than larger groups.
3. Random group assignment by the teacher rather than letting students choose their own group. And, for teachers who use style assessments such as Myers-Briggs or True Colours, a complementary group can be defined.
4. Use a process approach (discussed later) with strict deadlines for each component so you will know if groups are on track and working well.
5. Allot adequate time for group meetings within class hours rather than expecting students to meet outside class time.
6. Assign grades for individual contribution to the project rather than a single overall group grade that everyone receives equally.
7. If you incorporate some form of peer evaluation, use it only for feedback on student participation and contribution to the group process and product, and do not factor it into a final grade.
8. Participate in at least one of the meetings of each group yourself so that you can observe and monitor the group process and effectiveness.
9. Be prepared to act as a mediator to resolve disagreements in the groups.



Having offered these tips for those who feel, for whatever reason, that they must or might still want to use graded group assignments, I would again caution that **I do not believe that they contribute to effective group collaboration nearly as much as in-class group activities** do; and in fact I feel they are a detriment to collaborative learning and the benefits students can gain from group activities. Beyond that, given the logistical challenges to modern adult students to being able to meet outside of classroom hours – time, commuting, child care responsibilities, part time work hours and more - the graded group process in its most common form becomes challenging and frustrating for them.

THE IMPORTANCE OF OPEN BOOK TESTING

In my opinion the only valid form of testing is the open book test. If we consider a principle based approach to evaluation, only this format takes into account the five principles I promote and only open book testing takes into account the primary characteristics of our entering student population. The benefits of open book testing are pretty straightforward:

1. Students **do not have to focus on rote memorization** and instead can use their ability to apply **transactive memory** as their approach to testing.
2. It allows teachers to move **past a reliance on memory** (typical recognition and recall testing) **to assess higher order thinking** (Bloom's taxonomy).
3. It teaches students how to **organize content/material** in preparation for testing and in doing so trains them in organizing information.
4. It reflects the **world of work** in which we have access to books and online resources when dealing with a question or problem.
5. It **precludes any concern about cheating** since students are able to use their textbook, other books and resources and their notes.
6. It provides **meaningful use of the textbook** as not only a source of content information but a performance resource on tests.
7. It allows **students to use other resources** beyond their text and notes if they wish to browse online or bring other print resources to the test.
8. It **decreases test anxiety** that inhibits performance by using effective preparation to reduce anxiety. Having said that, it is also necessary to point out that without proper instruction, students often fail to appreciate the demands of an open book test the first time they take one – but they learn quickly that it is not easier – it is different.
9. It allows teachers to **craft more imaginative** and **inventive test questions** that do not depend on rote recall but allow students to access information that they can use to formulate higher order responses

I believe that every evaluation activity can be designed as a learning activity. In my view, in terms of formal testing, an open-book testing format meets that standard better than other forms of testing. Open book testing is, by any measure, more work for the teacher than most other forms of tests. On the other hand, I have found that it produces a significantly better learning experience for students and, in my view, a more accurate measure of students' ability to apply knowledge on demand.

Note: There is an exception, or at least a consideration. There are careers in which immediate recall is required (paramedic; ER nurse; veterinary technician) in critical work situations and any crisis-related components can be tested in a manner that requires immediate rote recall or performance. However, even in these careers, other aspects of the work permit reference to resources. Those components can be assessed through open book testing.

If you are like me, you make notes after each class about potential questions for tests. It is a helpful strategy. It ensures that you sample adequately, taking at least one question from each class. Rather than spending time deciding on what information questions will be based, you can move directly into the process of converting those notes on potential questions into open-book test questions. In an open book test, students cannot simply look up the correct answer; they look up information that will enable them to produce a correct response. Here are some suggestions for test design:

1. After each class write down 3-5 questions related to the essential content covered during that class. Identify in parentheses after each question the specific Intended Learning Outcome (ILO) for the course to which it relates.
2. As you begin to draft the test, type the questions in the order that information was presented in classes. You will probably have more questions than you can use on a test. In a two-hour test, 20-25 questions is typical, while for a three-hour test, 30-35 questions may be included – depending on question types and time allotments.
3. Eliminate questions that are redundant or ask for duplicate information.
4. Check the grammar, syntax, spelling and readability of each question. (Your word processing software can give a readability score for each question.)
5. Read each question to yourself and then read it aloud. Does each ask the question you intend to ask?
6. For each question decide which level (or levels) of cognitive thinking you wish to examine. Refer to Bloom's taxonomy for assistance (table follows).
7. Make sure each question uses the appropriate key-word(s) to reflect the cognitive level of thinking that is expected.
8. Consider each question that will be included and decide what question format (multiple-choice; mind-map; true-false; matching; short answer; fill-in; essay; argument and so on) would best address the question. Questions should vary (i.e. avoid several of the same type of question).
9. Once all of the questions have been formatted, check the total time required to take the test. You can find suggestions for timing (e.g. 90 seconds for a multiple choice question) in a number of online websites.

10. Give a grade value to each question based on such criteria as:
    a. The level of thinking required – an analysis question should be worth more than an understanding question.
    b. Your plan for differentiation – some teachers like to increase the value of questions they feel will distinguish better students from others.
    c. Type of question – short answer questions usually demand higher order thinking than fill-in questions.
11. Have a colleague, or students who have taken the course before, review each question for clarity, relevance and readability.
12. Type out the correct answer(s) to each question for reference when grading.

BLOOM'S TAXONOMY

LEVEL	DEFINITION	KEY TERMS
CREATING	Generating new products, ideas or ways of viewing things. Designing, constructing, planning, producing, inventing.	Develop; imagine; create; produce; build, conceptualize; revise; devise; combine; design; formulate
EVALUATING	Justifying a decision or course of action; checking, hypothesizing, experimenting	evaluate; critique; debate; argue; judge; defend; draw a conclusion; support; rate; evaluate
ANALYZING	Breaking information into parts to explore understandings and relationships; organizing, deconstructing, interrogating	compare; contrast; connect; distinguish; determine; categorize; classify; differentiate; illustrate; question
APPLYING	Using information in another familiar situation; implementing, carrying out, using, executing	apply; utilize; make use of; employ; adapt; demonstrate; modify; predict; solve; write
UNDERSTANDING	Explaining ideas or concepts; interpreting, summarizing, paraphrasing, clarifying, explaining	explain; clarify; simplify; generalize; summarize; classify; report;
REMEMBERING	Recalling information; recognizing, listing, retrieving, selecting	identify; list; choose; name; describe; specify; match; outline; state; arrange; label; order;

I design the test or exam to take about 75-80% of the allocated time. For a three-hour test, I design a test to be completed by most students in two hours and fifteen minutes. In that way, students have ample time, including those who may work a bit more slowly or who need to review their answers more than once.

Once teachers have decided that an open-book testing format complements the learning outcomes for their course, they can support students in preparing for this type of test.

1. **Describe.** Begin by clarifying what is meant by an open-book test. I usually permit students to bring any resources: textbook, any notes, printouts of slide shows, summary crib-sheets they have prepared and they can even log on and use the Internet if they wish to do so. (They learn quickly that the latter does not help very much and is very time consuming).
2. **Prepare.** Students assume that open-book tests are easy and rarely prepare adequately for the first one. I schedule an open-book quiz in week #3 or week #4. Students can experience the nature of the open-book test and if necessary revise their preparation strategy for subsequent tests.
3. **Index.** The most important preparation is indexing their text and notebooks. Most course texts have an index in the back, but it is usually overly-detailed and not always consistent with your focus on content. I encourage students to mark up their books, during and after class, highlighting what is essential; drawing boxes around important sections; and writing notes and potential questions in the margins. It is helpful for students to mark sections with post-it notes with labels that stick out and can be read when the book is closed. Those post-it notes become their functional index markers.
4. **Review.** Beyond preparation specific to open-book testing I review the basic tips for test-taking: putting their name on the test; reading the entire test first; adjusting their time-per-question based on the number of questions; doing easy questions first; completing every question; reviewing their work at the end; signing the hand-in sheet at the end, and so on. I usually place a few easier questions at the beginning and encourage students to start with those.

The more supports we provide, the more challenging the questions we can ask, since students are prepared for challenging questions. I have, below, included some sample questions that move the requirement higher on the Bloom taxonomy. Often it is as simple as crafting a multiple-choice or true-false question and then having the student explain their choice. Here are some others:

Remembering (Philosophy): List five steps in the critical thinking process
Higher-order (Applying): Apply a critical thinking process to this statement by Socrates: "The unexamined life is not worth living."

Remembering (Sociology): List four negative marker events in a family life cycle
Higher-order (Understanding and **Analyzing)**: Explain and categorize each of the major marker events in the family life cycle.

Remembering (Organizational Behaviour): Which of the following choices describes the main goals of feedback in the work place?

a. motivational and environmental
b. instructional and motivational
c. specific and task-focused
d. situational and responsive
e. oriented and directive

Higher-order (Analyzing): Compare the goals of 'positive' and 'corrective' feedback when provided to employees.

Remembering (Abnormal Psychology): Talking with someone about their suicidal thoughts can increase the probability that they will attempt suicide. True / False
Higher-order (Understanding and **Analyzing)**: Add: Explain your answer.

Remembering (Organizational Behaviour) Define the term 'span of control.'
Higher-order (**Analysis**) Explain how the concept of 'span of control' influences organizational design.

THE FALLACY OF MULTIPLE CHOICE TESTING

If an open book test is the best form of evaluation, and in my opinion it is, then I would suggest that the absolutely worst form is a test where all questions are multiple-choice. This is the seduction of convenience over good learning and teaching and should never be used in higher education for several reasons:

1. These questions almost always ask for little more than recognition or recall from students. That is lower order thinking and we are in the higher education business – or we should be.
2. Writing high-quality multiple-choice questions is a skill that many teachers have not been trained in – the result is questions that are grammatically and syntactically incorrect or difficult for students to read and understand.
3. Too many teachers try to craft 'tricky' multiple-choice questions when in well-crafted ones there is one clearly correct response and no grammatical traps such as 'which of the following, except . . .'
4. Any test should have a variety of question types so that all students have the opportunity to work on questions that they are strong in as well as some that they might find more challenging.

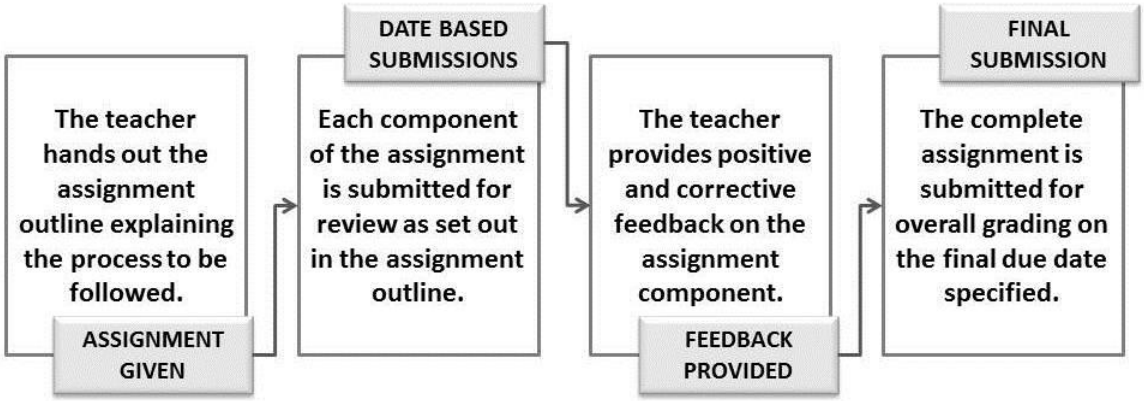
Teachers who use multiple-choice only testing generally, in my experience, fall into one of the following categories:

- They do not understand or appreciate the importance of higher education and the fact that most multiple choice questions usually ask for only lower order thinking – recognition and recall.
- They lack the commitment required to put time and energy into designing tests and test questions that are learning experiences for students and more accurately measure learning and application.
- They do not know how to design better tests and do not take advantage of or are unaware of resources available in their institutions to learn to do so.

Let me be clear. I am not opposed to the inclusion of multiple-choice questions in tests and exams and in fact encourage it. I am opposed to tests in which this is the only type of question – or, for that matter, tests with any single type of question. Multiple-choice questions should always be among other types on all tests. One reason in particular is that in a number of professional disciplines, including law and medicine among others, certification or registration examinations will often and unfortunately be 'multiple-choice only' tests and we should give students the opportunity to become familiar with strategies for responding to those questions as well as other question types.

THE IMPORTANCE OF PROCESS ASSIGNMENTS

In my experience, a process approach benefits students when completing any significant graded assignment that can be divided into parts. Rather than scheduling a due date for the completed assignment (usually near or at the end of the semester), the assignment is divided into component parts with dues dates for each component at different points in the semester. A separate marking scheme or rubric is provided for each component of the assignment. In this way, students are required to complete components in sequence and submit each part either for marking or for review and feedback.



I like to mark and grade high quality student work, so I use the model of process assignments in which each component is submitted for review and feedback and the overall grade is assigned to the final and complete submission. Other teachers choose to grade each component as it is submitted and use those marks collectively to formulate the overall grade for the assignment. It is simply a matter of teacher preference.

While not all assignments lend themselves to a process approach, most do, and the benefits of process assignments are pretty obvious:

1. We combat the natural tendency to avoid or **procrastinate.**
2. We ensure students are '**kept on track**' with what we want them to produce.
3. We are able to provide both **positive** and **corrective feedback** along the way to ensure that students know what is expected.
4. We support the production of **high-quality work**.

We contribute to a supportive and engaging learning environment when we reduce barriers to high-quality performance through such strategies as a process approach to assignments.

THE IMPORTANCE OF TECHNOLOGY

Given that most students can readily access information technology through smart phones, tablets, laptops and PDAs, modern teaching needs to appreciate and integrate the application of technology. From the passive technology of the flip chart to the active technology of intranet systems, we are being challenged to master a variety of new technologies.

There is a growing expectation that teachers adopt at least the core tools including Learning Management Systems (BlackBoard, WebCT et al.), classroom computers, data projectors and the use of PowerPoint. Beyond these, more teachers are using the Internet in class and email is the dominant form of communication between teachers and students. Add the benefit of digital imaging, scanning technologies and video and audio clips on CDs and DVDs, as well as the advent of such resources as Facebook and YouTube and we have tools envied by those who taught before they were available.

One of the questions for discussion is whether such technology is now considered essential to principle-based instruction. My answer is a clear 'yes.' But it is still important to remember technology is both 'equipment' and 'expertise' and its use is influenced significantly by attitude, experience, training and support.

In terms of types of passive and active technology that you can use in course delivery, it might be useful to start by checking all of those below (alphabetical) which apply to your teaching:

ITEM	USE REGULARLY	ITEM	USE REGULARLY
Audio systems		Imaging software	
Computer		Intranet (BlackBoard)	
Data projector		Internet searches	
Digital Camera		Online gradebook	
Discussion board		Online tests	
Email		Scanner	
Facebook		Video systems	
Flip charts		YouTube	
Handouts		Other:	

It is essential that teachers follow **copyright** regulations as they pertain to the use of digital material. These are outlined quite clearly by most colleges and in general copyright regulations are very generous to teachers.

PowerPoint is the dominant instructional software – and there really are no serious challengers, though some have tried to compete. Its dominance in teaching cannot be overstated. Most teachers use PowerPoint on a regular basis – some use it in every class. However, that does not mean it is always used properly. The phrase 'death by PowerPoint' was coined to reflect students' experience of going from one class to the next and being overwhelmed by PowerPoint's frequent use and equally frequent misuse.

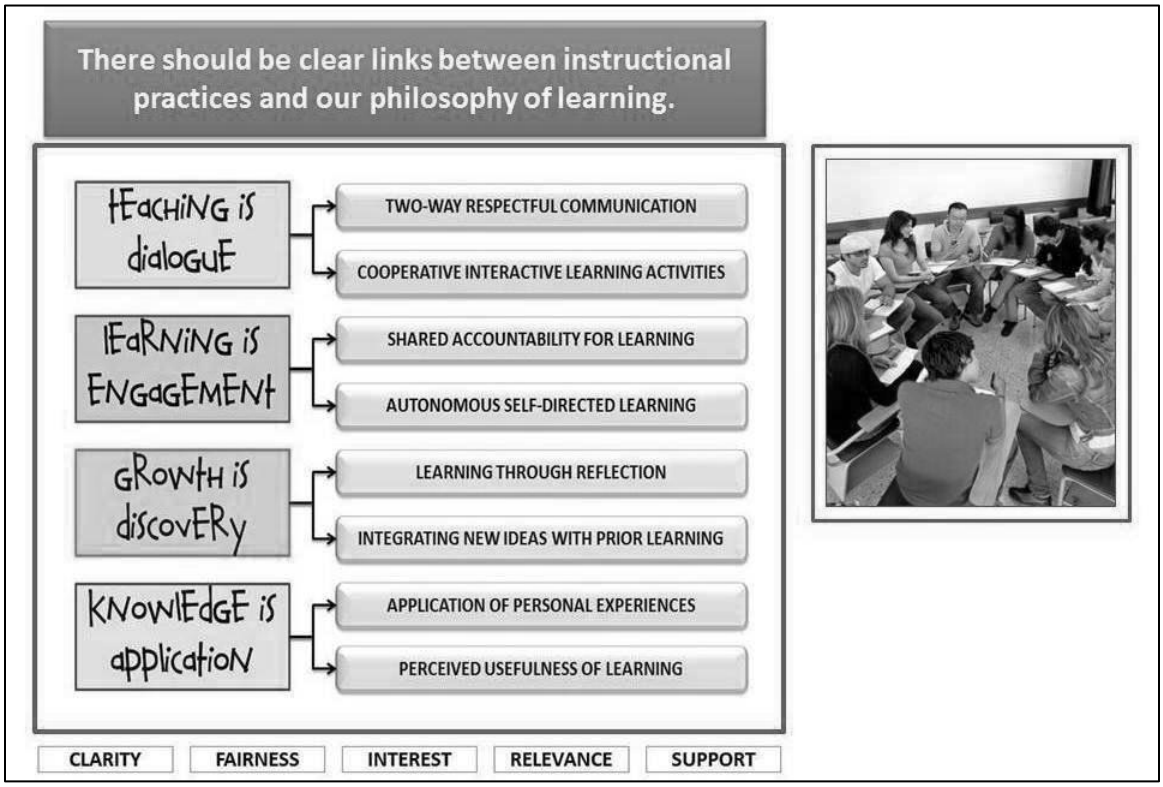
In 'Beyond Bullet Points,' one of the best books available on the effective use of PowerPoint, Cliff Atkinson offers insights into the use of this tool and suggestions for an effective instructional approach to its use. I have been applying these strategies to my PowerPoint slides for several years with significant results in terms of the flow of the presentation and positive feedback from students and other adult audiences on the impact of the slides. I encourage all teachers to read this book and to check out his website (www.beyondbullletpoints.com) for ideas and information. I found his application of Richard Mayer's work on multimedia learning most informative and helpful. Based on the understanding of dual-channel learning, limited capacity and active processing, they suggest: (from Atkinson and Mayer's article "Five Ways to Reduce PowerPoint Overload")

- **Signaling**: "Titles do not provide explanations – only signposts. People learn better when information is organized with clear outlines and headings."
- **Segmentation**: "People learn better when information is presented to them in bite-size segments."
- **Modality**: "People understand a multimedia explanation better when the words are presented as narration rather than on-screen text."
- **Multimedia**: "People learn better from words and pictures than they do from words alone."
- **Coherence**: "People learn better when extraneous information is excluded rather than included."

It is important to follow basic accessibility standards when we use PowerPoint. There are various sets of standards but here are some of my suggestions:

- # **slides per hour.** No more than 12 – my average is about 6-8 slides per teaching hour and student feedback suggests this is about right.
- **Minimal animation.** I rarely use animations. Students find them distracting. Also, if you intend to post slideshows in a .pdf format, animations disappear. It is more efficient to use two or three slides to demonstrate a transition – they are saved in a .pdf file without having to do editing and reformatting.
- **Minimal slide transition.** I use no transitions other than is fade smoothly. Most are distracting and irrelevant.

- **No distracting templates.** I do not use design templates at all. Students report that they are distracting. I stick to a simple white background with occasional colour frames. A sample slide follows:



- **Contrast.** The research shows that we should use a dark font on a light background. Light fonts on dark backgrounds are worse – and the worst is a light font on a dark design template.
- **Font size.** This has to be adjusted for the size of the classroom, but generally headlines are in 20-30 points and body text is 18-24 points.
- **Layout.** I almost never use bullet point slides preferring an open layout.
- **Font type.** The consensus is that sans serif fonts are best – Arial, Century Gothic, Trebuchet MS, Verdana, Tahoma and Calibri. It is best to avoid serif fonts such as Times New Roman, Garamond and Book Antigua).

If teachers feel this limits their use of the 'bells and whistles' in PowerPoint, they are right. Those bells and whistles are often nothing more than distractions, taking attention away from the message more than contributing to it. It is a matter of 'just because you can does not mean you should.' You shouldn't.

10 HELPFUL QUESTIONS – HOW ARE YOU DOING?

	ABSOLUTELY	-	WORKING ON IT	-	NOT CURRENTLY
1. Do I have a set of **standards** for instructional practices – and do I communicate them?					
2. Do I use a variety of interest-engaging **advance organizers?**					
3. Do I maintain a focus on **essential content** that meets intended learning outcomes?					
4. Do I make use of **previews** at the beginning of class and **reviews** at the end of class?					
5. Do I apply **adult learning principles** to engage adult students?					
6. Do I have ways to encourage and reward **participation** in class?					
7. Do I make use of **active learning group** exercises to facilitate collaboration?					
8. Do I use **open book** testing as a way to evaluate higher order learning and thinking?					
9. Do I make use of a **process approach** to assignments where that is appropriate?					
10. Do I make balanced and appropriate use of the **technology** available?					

You may have other strategies that you find helpful in creating a supportive and engaging learning environment. I would appreciate you sharing them with me – jim.d.bryson@gmail.com

Thanks.

CONCLUSION

Teaching is a wonderful career, and teaching adults a particularly enjoyable and satisfying one when we do it to the best of our abilities. It is my view that we do it to the best of our abilities when:

1. We use practices are grounded in a fundamental **philosophy** of what we believe educating adults should be like.
2. We consciously consider the '**intended student experience**,' the kind of experience we want students to have in our courses.
3. We define, in our own minds, the **intended teaching experience** that we want to create for ourselves.
4. We identify a set of **guiding principles** that influence the decisions we make in the core dimensions of teaching – design, delivery and evaluation.
5. We adopt practices that will **engage the curiosity and attentiveness** of the students that we are privileged to teach.
6. We solicit **feedback for improvement** from colleagues and from our students so that we can continue to develop our skills and talents.
7. We focus on the concepts of **higher education** and apply those concepts to the expectations we have for ourselves and our students.
8. We focus on practices that we find **comfortable and enjoyable**, as students are likely to find those same experiences comfortable and enjoyable.
9. When we apply our **creativity** and **innovative skills** in response to the changing characteristics, needs and expectations of our students.

The important thing is to persist, to continue our efforts to progress and improve. US President Calvin Coolidge wrote that "nothing in the world can take the place of persistence. Talent will not; nothing is more common than unsuccessful people with talent. Genius will not: unrewarded genius is almost a proverb. Education will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent." I believe that he was right.

EPILOGUE

In 1868, Benjamin Disraeli, British Prime Minister wrote that "education should consist of a series of enchantments, each raising the individual to a higher level of awareness, understanding, and kinship with all living things. For it is upon the education of the people of this country that the fate of this country depends." True then, as true now.

As teachers of adults, we have one of the best jobs in the world. It gives us a sense of achievement, purpose, belongingness, challenge, satisfaction and security. It demands that we continuously improve our design, delivery and evaluation abilities across a wide range of skills and talents and provides us with opportunities to do so. And it offers us an extraordinary opportunity to make a difference in the lives of so many people.

With that opportunity comes the inevitable responsibility to do the job to the best of our ability and to provide an educational experience for students that is supporting and engaging. And as we get better and better at adapting to changing circumstances we get better and better at everything that we do.

Teaching adults is one of the most important jobs in our society, because our society depends on us to prepare students, to the extent of our influence, to move society forward. We are preparing them not for the 'world of work,' as some narrowly believe, but for the **'work of the world'** and the complex work of the world includes dealing with career issues, social issues, technological, legal, environmental, ethical, educational, economic and political issues. The world is a complex place and we have a duty to do our best to prepare students not only to master curriculum content, but to master critical and creative thinking, effective communication, self-discipline, work habits and the application of the knowledge capital that comes from their participation in learning.

For myself, I can think of no career more interesting, challenging and rewarding.

Thank you.

Please give me your feedback on this book jim.d.bryson@gmail.com – I would very much appreciate it. Thanks.

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Unfairness