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Western Guide to Curriculum Review

Margaret McNay
Western University

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The University *of* Western Ontario
Teaching Support Centre

TSC

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Teaching Support Centre ***Purple Guides***

Western
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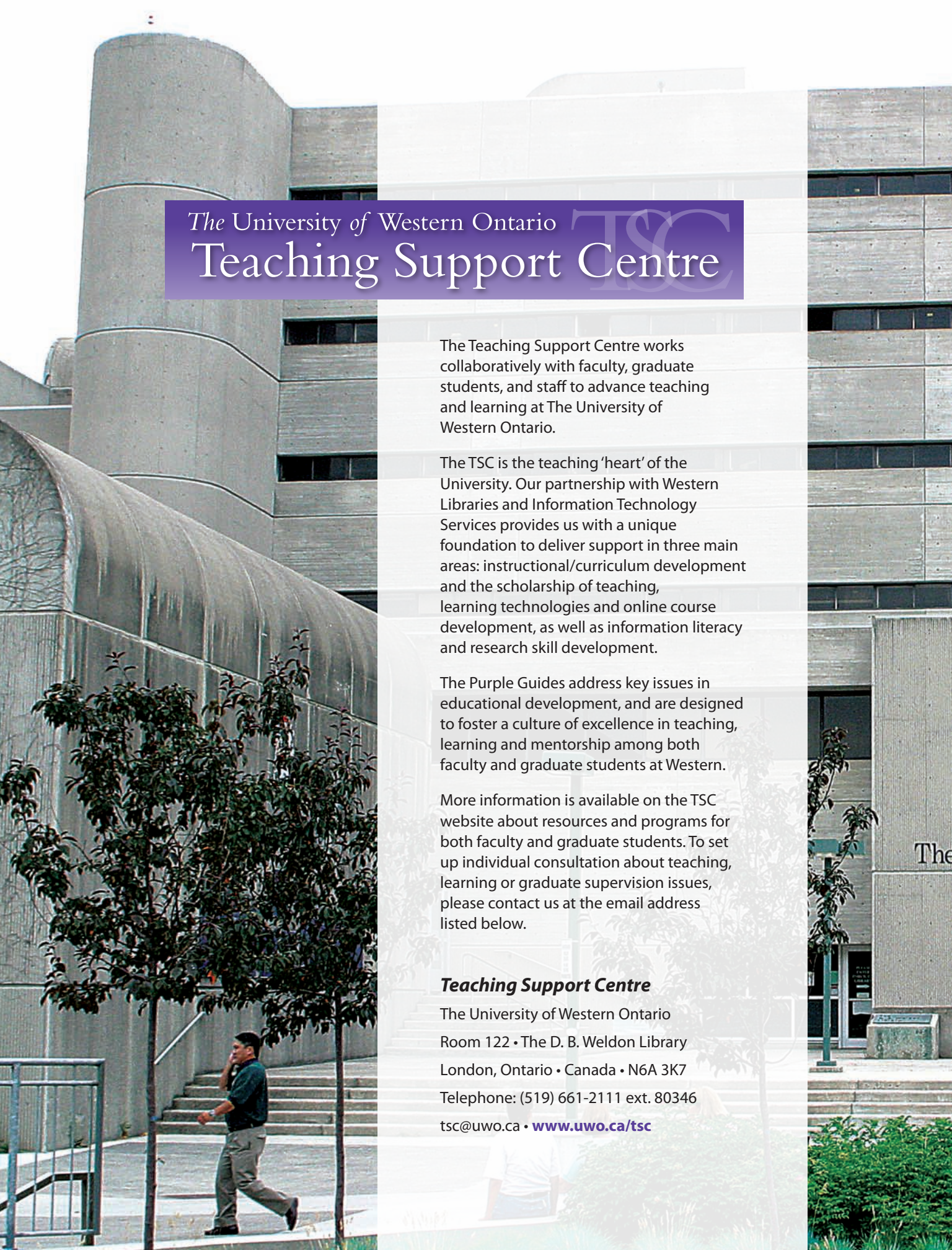

The University *of* Western Ontario

Teaching Support Centre

The Teaching Support Centre works collaboratively with faculty, graduate students, and staff to advance teaching and learning at The University of Western Ontario.

The TSC is the teaching 'heart' of the University. Our partnership with Western Libraries and Information Technology Services provides us with a unique foundation to deliver support in three main areas: instructional/curriculum development and the scholarship of teaching, learning technologies and online course development, as well as information literacy and research skill development.

The Purple Guides address key issues in educational development, and are designed to foster a culture of excellence in teaching, learning and mentorship among both faculty and graduate students at Western.

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Introduction

CURRICULUM ASSESSMENT, EVALUATION, AND REVIEW

The need to examine a curriculum may arise for any number of reasons:

- A new program is needed to meet a new need;
- Priorities within the department have changed;
- A new dean or chair has arrived;
- The original focus has been lost, and years of untamed growth need to be rationalized;
- The curriculum must meet newly articulated criteria and standards;
- Students are frustrated or dissatisfied;
- Faculty members have a sense that things could or should somehow be better.

Curriculum Assessment, Evaluation, and Review can help to

- Demonstrate the strengths of a program;
- Evaluate recent changes in a program;
- Identify aspects of the program that should be reconsidered or changed;
- Provide a basis for renewing or reforming components of a program;
- Enhance student learning, engagement, and satisfaction;
- Ensure professional accreditation standards are met;
- Align a program with the Ontario Council of Academic Vice-Presidents (OCAV) Guidelines for Ontario University Undergraduate Degree Level Expectations;
- Move towards renewal and reform.

Your reasons for raising questions about curriculum as well as the specific questions you ask and what exactly you want from the process will determine how you proceed.

Strictly speaking, *assessment* refers to the gathering and analyzing of information, and *evaluation* to the making of a judgement about worth or quality. In simply deciding upon a focus for assessment, however, or on what kinds of information should be gathered for a review, your values have come into play. It is best to recognize this up front, and return to them frequently during the curriculum review process.

Here are some of the steps outlined in this guide:

- Consider the process you will use — top-down administrative fiat or something more democratic?
- Identify, define, and clarify the values, beliefs, and desires that inform and direct your course or program.
- Define your mission, your *raison d'être*, your vision for the future, and the role your values play in your course or program.
- Consider the current program, its structure, context, resources, strengths, unique features, and accomplishments. Identify the challenges facing you.
- Consider your beliefs about the nature of knowledge and learning, your notions of what a curriculum is or should be, your philosophy of education.
- Consider your goals, what you want to teach, what you want students to take away from your course or program.

OCAV'S UNIVERSITY UNDERGRADUATE DEGREE LEVEL EXPECTATIONS (UDLES)

Because Canada is one of the only countries that lacks a clear declaration of its common graduate attributes for undergraduate degrees, Ontario decided to preemptively clarify its own quality measures. The OCAV developed Guidelines for University Undergraduate Degree Level Expectations. These guidelines take into account the Council of Ontario Universities (COU) mandate of Undergraduate Program Review Audits to be undertaken every seven years. In 2005, OCAV requested compliance with six outcome statements from all its member universities beginning in the June 2008 review cycle. The Guidelines provide a set of broad criteria against which an undergraduate degree can be measured:

1. Depth and Breadth of Knowledge
2. Knowledge of Methodologies
3. Application of Knowledge
4. Communication Skills
5. Awareness of Limits of Knowledge
6. Autonomy and Professional Capacity

The document that describes the rationale and criteria for the guidelines is reprinted in Appendix A. Note OCAV's assurance that institutions are free to use language that reflects its own mission, ethos, values and culture.

Most faculties at Western will find their existing degree programs *mapping on* to these guidelines reasonably well, and that the degree level expectations can in fact be used as a framework within which to review a program or construct a new program.

Getting Started

WHAT PROCESS?

In a study of how a number of Canadian faculties approached programmatic change, Cole (2000) described four kinds of approaches to the making of change:

Administrative Fiat: The administrative head makes unilateral changes within the program, often to accommodate financial cutbacks.

Authority Delegated to a Committee of Faculty Members: A committee is charged with the responsibility of consulting among their peers and preparing a strategy for change. Sometimes a dean or chairperson endorses a pilot project followed by an invitation to those involved in the pilot to propose more widespread changes. Some deans made a point of dismissing this approach as a recipe for failure.

Democratic Process: A relatively large committee is created with stakeholder representation from the university and field (if relevant) in a lengthy (two- to five-year) process of consultation and design usually followed up by a coordination or implementation committee to oversee and monitor program changes. One dean described this approach as a "sure-fire way to preserve the status quo."

Full Faculty Involvement: The dean or chair initiates a process of discussion and planning usually in a series of retreats or extended sessions involving the whole faculty or department. Faculty-wide commitment to substantial change is non-negotiable in this approach and much effort has to be invested in encouraging that commitment. This approach is the most demanding of faculty and administrators alike but holds the most promise for effecting substantial and systemic change.

- To begin the process of discussion and planning and to encourage full faculty involvement, consider the topics and questions on the next few pages.
- Consider a faculty or departmental retreat.
- Talk about renewal, revitalization, incremental vs. radical change.
- Encourage discussion of "what we are all about", "why we are here", and "what we really want to do for our students."

THE ROLE OF METAPHOR

It may seem odd to begin a discussion of curriculum with a focus on metaphor. But if it is true that metaphors are an integral part of the way in which people conceptualize the world, and if it is true that people's actions reflect metaphorical conceptualizations (Lakoff & Johnson, 1980), then this is the only place to start.

Metaphors help to create realities. Thus, North Americans have learned over recent decades to be more inclusive in the use of language, and more careful about the labels attached to people. Just so, the metaphors we use in conceptualizing educational institutions, curricula, and approaches to teaching help to determine the reality of those institutions and curricula, and the reality of ourselves as teachers.

Metaphors abound in educational discourse. Take curriculum, for example. The very origin of the word — from the Latin, *currere*, the running of the [race]course — connects it to our notions of program outlines and course syllabi, and the paths students follow through educational institutions.

One of the most popular of teaching metaphors is the journey metaphor, in which new worlds and new adventures await students guided by instructors who have preceded them on this or similar journeys.

Education critics invoke the factory metaphor, charging that educational institutions put unique individuals through one-size-fits-all programs and turn out unthinking widgets at graduation.

Paulo Freire's *banking metaphor* is one of the most widely known metaphorical condemnations of education:

> A careful analysis of the teacher-student relationship...reveals its fundamentally *narrative* character... Narration...leads the students to memorize mechanically the narrated content. Worse yet, it turns them into "containers," into "receptacles" to be "filled" by the teacher. The more completely she fills the receptacles, the better a teacher she is. The more meekly the receptacles permit themselves to be filled, the better students they are.
>
> Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiqués and makes deposits which the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the scope of action allowed to the students extends only as far as receiving, filing, and storing the deposits. (Freire, 1970, p. 57)

The worlds of business, economics, and politics offer metaphors for curricula. Strategic plans, outcomes, accountability, and notions of students as consumers, a natural resource, and "products" are ubiquitous in education. But business metaphors do not work for people who prefer to construct education as a service rather than a business, and students as people rather than resources or products.

Why does metaphor matter? Because if we talk about education, students, and curriculum in technical and reductionist ways, it is difficult not to think about them in those ways, and to construct and create them in those ways.

If some of the more popular metaphors are uninspiring, even negative, what other metaphors might one use in talking about curriculum?

I like the notion of metaphors from the arts, culture, the humanities — metaphors that have aesthetic and transformational aspects to them. I am inspired by the notion of curriculum not as something to be delivered or implemented, but as something more like a musical score to be performed, a script to be interpreted, a work of art to be created, a relationship to be developed — for and with my students.

Some metaphors suggest that the most important feature of a curriculum is that it gets students somewhere. Aesthetic and transformational metaphors suggest that the experience of getting there — the experience of beauty, timelessness, inspiration, transcendence — may be even more important.

Educators may not be able to avoid thinking about outcomes, accountability, teaching strategies, and so on — and shouldn't avoid thinking about exactly what they are doing and how they are doing it — but it may be just as important, if not more so, to think about the aesthetic qualities of curriculum — so that curriculum might become timeless, inspiring, beautiful, and transcendent, as well as implemented.

Below are my own favourite metaphors for curriculum:

"Good novels, if we are ready for them, transform us. Good curricula should have the same effect."

(Overly & Spalding, 1993)

"Cultures need outlaws to challenge, and push, and prod them into defining and redefining themselves...Curriculum...is a task for outlaws."

(Molnar, 1991)

"Curriculum...is a design of events that brings about conversion. Curriculum...is not worth the journey if it does not convert those who participate in it into something better."

(Schubert, 1991)

MISSION, VISION, VALUES

If you don't know where you're going, or why, it is difficult to figure out the best way to get there. If you don't know what kind of building you are constructing, or what its purpose is, it will be difficult to know how to begin or what materials to choose. So with education. When you begin to think seriously about curriculum, whether at the level of a course, a module, or an entire program, you will find yourself asking some basic questions — What do we want students to get out of this course (or module or program) anyway? What do we want our graduates to know and be able to do? How can we make it happen?

Answers to such questions are not always readily agreed upon. That is why curriculum renewal is best begun with discussion of foundational issues. Before a meaningful and cohesive curriculum can be planned and put into place, everyone should be clear about the unit's mission, vision for the future, and values.

Mission: why the department exists, its raison d'être, its unique role and contribution to the academy, the profession, society.

Vision: an image for the future of the department; a realistic, credible, attractive future that is better in important ways than what exists.

Values: the priorities that shape the actions of everyone in the department with respect to students, learning, relationships, the profession, society.

Discussion of questions such as the following can start the visioning process:

- What are our current strengths? Of what are we proud?
- What attracted us to this department? Why do we stay?
- What challenges do we face as we consider the future of our program?
- What are our deepest concerns?

The Mission, Vision, and Values statement of Schulich Dentistry (2005) is a good example of a clear and comprehensive statement:

Mission: We will develop in dental professionals the knowledge and skills to provide exemplary care to the diverse communities that we serve. We will influence the future of undergraduate and postgraduate dental education through scholarly inquiry, innovation and research.

Vision: International recognition through excellence in dental education, research and patient care.

Values: As leaders who are committed to exceptional results, we embrace the following core values:

- Compassionate, patient-centred care
- Commitment to professionalism and integrity
- Nurturing leaders through life-long learning, problem-solving skills and critical inquiry
- Teamwork and collaboration
- Respect for diversity in culture and perspectives
- Accountability to our community of scholars and to the public

A PHILOSOPHY OF EDUCATION

Whether or not you have ever articulated them, you have personal ideas and beliefs about what education is all about (or what it should be all about). You have your own ideas about the role of the university, your role within it, and what you want to offer the students you encounter.

The following questions and the characterizations of educational philosophies and views of curriculum on the next two pages, are intended to help you identify some of your own foundational ideas. Doing so can help to ensure your beliefs and values are aligned and consistent with your goals, and that your goals are consistent with your actions and methods.

What, why, and whom do you teach?

- What is the purpose of education?
- What is your role as an educator? What do you hope to accomplish?
- What do you want for your students?
- What do you teach? Why is it important?
- Why will your students want to learn it?
- Whom do you teach? Why are your students there? What are they hoping for?
- What will interest and engage them?
- What do they already know about your subject?
- What will help them learn?

Who are you?

Educators are often asked about what they teach and how they teach it. Sometimes they are asked about why they teach what they do. Rarely if ever are educators asked about who it is that teaches — who they are as people, as educators, and what they are teaching their students just by being the people they are (Palmer, 1998).

- Who are you when you teach?
- What contributes to your identity as an educator?
- What is your gift, as a person, to your students?

To explore these questions further, please fill out a short questionnaire developed by University of British Columbia researcher Dan Pratt to help faculty members recognize their philosophical stance towards teaching. Go to the Teaching Perspectives Inventory (TPI) website at www.teachingperspectives.com

Your Philosophy of Education

Perennialism

The highest priority in education is the development of the rational mind and cultivation of the intellect. Curriculum should focus on classical subjects, great books, and the great ideas of Western civilization — on knowledge that is timeless and unchanging.

Essentialism

Education must prepare students to become valuable and productive members of society, skilled and competent workers who will help us maintain global economic competitiveness. Students need the basics — knowledge and "skill sets" that will enable them to function successfully and usefully in life.

Education is not to reform students or amuse them or to make them expert technicians. It is to unsettle their minds, widen their horizons, inflame their intellects, and teach them to think straight, if possible.

R. Maynard Hutchins

A liberal education... frees a [person] from the prison-house of... class, race, time, place, background, family and even...nation. The purpose of the university is nothing less than to procure a moral, intellectual, and spiritual revolution through-out the world.

R. Maynard Hutchins

Progressivism

Education must address the needs and interests of individual students who learn best when the curriculum relates to real-life problems and emphasizes problem-solving. Universities should offer inter-disciplinary programs and opportunities for individual growth, human development, and personal fulfillment.

Social Reconstruction/Critical Theory

The purpose of a university is to educate students to engage in social reform and ultimately create a better society. The curriculum must emphasize social, economic, and political issues, and the abilities needed to identify and solve social problems.

Three Perspectives on Curriculum

Perennialists and essentialists hold a view of curriculum often characterised as transmissive; progressivists hold a view characterized as transactional; and social reconstructionists and critical theorists hold a view characterized as transformational.

Transmission: focus on *technique* and *product*

Foundation: realism, essentialism, behavioural psychology

Goal: to transmit knowledge, attitudes, and skills

Curriculum: skills, knowledge, and attitudes

Teaching methods: presentation, demonstration, modelling

Evaluation: acquisition of prescribed knowledge, attitudes, and skills

Transaction: focus on *practice*

Foundation: realism, progressivism, developmental psychology

Goal: to promote learners' growth, development, and ability to think

Curriculum: real-life issues and problems related to students' interests

Teaching methods: projects, interactive learning, problem-solving

What to evaluate: development of inquiry and other thinking processes

Transformation: focus on *praxis*

Foundation: transcendentalism, existentialism, humanistic psychology

Goal: to improve and reconstruct society

Curriculum: social, economic, political issues and problems largely identified by students

Teaching methods: projects, interactive learning, problem-solving

What to evaluate: ability to identify social problems and issues, and to work for social change

"There is only one justification for universities.. .
They must be centres of criticism."

R. Maynard Hutchins

Gathering Information

ASKING QUESTIONS ABOUT CURRICULUM

While clarifying your mission and vision, and perhaps giving thought to your values, beliefs, and philosophy of education, begin gathering information about where you are now. You might want to ask questions such as these:

About Strengths, Weaknesses, Constraints, and Opportunities:

- Why do we think we should review, evaluate, renew, or reform our program?
- Are we achieving our goals? What are our goals, anyway?
- What are the strengths of our current programs?
- What are the weaknesses? What do we think we can do better?
- What are the constraints to our development?
- Are there existing opportunities from which we might benefit (e.g., collaborations with other departments, the field)?
- What gifts have we, as individuals and as a group, to offer our students?

About Students, Learning, and Levels of Satisfaction:

- Are our students learning what we intend them to learn? How do we know?
- What should be the nature of the first-year experience for our students?
- Are students satisfied with our program?
- What strengths do our students bring to the program?
- Should degree requirements mandate that each student have a variety of learning experiences, some of which take place outside the classroom?

About the Place of the Program in the Bigger Picture:

- Is the profession or workplace satisfied with our program?
- Are we satisfied?
- Has the program responded appropriately over the years to changing external, social, or workplace needs and challenges?
- What resources and infrastructure will enable us to offer our curriculum effectively and meet the learning needs of our students?
- What kind of contribution to society should our graduates be prepared to make?
- Do we want to internationalize the curriculum?
- How will we ensure the curriculum is equitable in terms of access, content, pedagogy, and outcomes?

CONCERNING THE HIDDEN CURRICULUM

Questions about what students do in a course or program, how they experience it, and what they read between the lines and hear between the lectures are as important as questions about the knowledge and skills explicitly 'covered' in the course or program. The hidden curriculum is often learned more readily, understood more thoroughly, and remembered longer than is the official curriculum.

What habits of mind, for example, do students learn in a particular course or program? The written curriculum may encourage critical mindedness. Do instructors and teaching assistants model critical mindedness? Are students rewarded for displaying critical mindedness in classes and tutorials, and on assignments and examinations?

What messages about the nature of the discipline are subtly (or not so subtly) sent to students by the approaches to instruction used in a course, the kinds of knowledge and understanding emphasized, and the thinking processes required by assignments and examinations?

SOURCES OF INFORMATION FOR CURRICULUM REVIEW

After deciding upon the questions you want to investigate, you are ready to consider how to gather the data you need.

Consider the potential sources of information and the methods of gathering that information listed below:

Methods:

- Surveys
- Questionnaires
- Focus groups
- Interviews
- Open forums

Informants:

- Faculty members
- Current students
- Graduated students
- Graduate students
- Employers
- Field partners
- Professional partners

Student Artefacts:

- Collections of student work (portfolios, projects, art pieces, other products)
- Performance/exhibits/ demonstrations

Test Results:

- External/professional exams
- Standardized tests
- Class tests
- Final year projects and comprehensives
- Interviews and surveys: Course evaluations
- Exit interviews
- Surveys of graduates
- External review: external examiners
- Peer review

Curriculum Maps:

[see next section]

CURRICULUM MAPS

Curriculum maps are graphic portrayals of the relationship between program elements—usually courses—and program goals and outcomes. Curriculum maps are helpful sources of information about an existing program and helpful organizers of information when planning a new program.

As a source of information about your current program, a curriculum map can help to show what is being done in the program and when, where, and how. To keep a map from becoming unwieldy and overly detailed, it is often advisable to begin with one or two questions or a single focus.

A department might, for example, want to know if a commitment the members had made to teaching particular content or particular skills was in fact being honoured in the actual teaching of actual courses. A curriculum map can show which courses are including such content or skills in the course outlines; can show which courses include assignments in and evaluate that content or those skills; and can map what instructors in different courses believe they are doing about the relevant content and skills. Examining the completed map should help to answer questions about what precise skills are being focused on and how, and whether there is an overall structure and rationale to the teaching or if it is hit and miss.

A curriculum map cannot answer all these questions but it can answer some. It will show where attention is heavily focused, and where there are gaps or overlap.

Information for curriculum maps should be gathered from a number of sources. To help ensure consistency in use of language and concepts across courses, one person should gather and organize the data.

Course outlines, surveys of instructors, and instructor interviews are the primary sources of data for curriculum maps. Students who have taken the courses may be interviewed about their experience to provide yet another perspective on what is taught and what is learned in particular courses.

Example 1

Curriculum Map	What communication skills are focused on (a) explicitly? (b) implicitly?	In what kinds of learning activities are students engaged?	Are students evaluated on communication skills?
Year 1 Course A			
Year 1 Course B			
Year 2 Course C			
Year 2 Course D			
Year 2 Course E			
Year 3 Course F			

Example 2

Program	Outcomes / Expectations		
Courses	**Knowledge:** concepts related to the discipline	**Skills:** e.g., written and oral presentation skills	**Habits of Mind:** e.g., critical thinking
Introductory Course in the Discipline	Concepts a, b, c are introduced and evaluated; d, e, f introduced but not emphasized and not evaluated	One short paper required every week; one report and one oral presentation per term; all written work evaluated	Critical thinking encouraged although not taught or evaluated as such
Senior Course in the Discipline	Advanced analysis of concepts a to f; concepts g to k also examined; all concepts evaluated	Presentation skills practiced regularly in class seminars; all are evaluated	Explicit discussion of criteria required for critical analysis of concepts a to k

Example 3

	Primary Focus, Essential Topics, Key Questions & Issues	Knowledge "Big Ideas" Enduring standings	Habits of Mind	Skills & Abilities	Beliefs, Attitudes, Professional Identity
	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.	1. 2. 3. 4. 5.
Course					
Course					
Course					
Course					
Course					

Please see Appendix B for additional resources and more curriculum map templates.

What will you teach?

KNOWLEDGE: FACTS, CONCEPTS, ENDURING UNDERSTANDINGS

Facts are discrete pieces of information that are believed to be true or real, existing or having once existed. Facts can be memorized.

Concepts are mental constructs, generalizations, ideas formed by organizing pieces of knowledge that are somehow related and share common features. The definition or description of a concept can be memorized but, more importantly, concepts can also be understood.

Enduring Understandings are the "big ideas," the "take-home messages," the principles that tie concepts together and that have value beyond the classroom. A description of an enduring understanding can be memorized, but real enduring understandings involve meaning.

Criteria: How will you decide what facts, concepts, and enduring understandings are relevant or important, and which should have priority in a course or program?

Scope: Exactly which facts, concepts, and enduring understandings will you teach? To what depth?

Sequence: How will you order, schedule, and sequence the knowledge to be taught? Is there a hierarchy of concepts, a progression of complexity or difficulty?

A Note About Coverage

As you consider what to teach, be particularly careful about how much you decide to include in your course or program. The overstuffed curriculum wreaks havoc with student understanding. As Howard Gardner states:

> [You] have to decide what to leave out, what's [less important right now and can be left for later]...and then really focus on...tackling important questions and reaching deep understanding...*Understanding takes time, and the greatest enemy of understanding is coverage. If you are determined to cover everything, you guarantee that most [students] will not understand*. [emphasis added] (Steinberger, 1994, p. 26)

For a discussion of the dilemma about "how to 'unstuff' the curriculum in order to achieve quality learning" (Fox & Radloff, 1997), see lsn.curtin.edu.au/tlf/tlf1997/fox3.html

"The acquisition of knowledge is the key feature that distinguishes education (general or vocational) at any level from all other activities."

(Young, 2003, p.553)

"Whether in astrophysics or literature, there is a body of knowledge to be learned and renewed. Most would like [it] to be useful and many would like it to be easy. However it is not often the former and rarely the latter. What really matters about knowledge is that...we can learn or find the truth or truths as best we can, in any field. This is what education and... universities are for."

(Williamson, 2002)

"There is a knowledge, which is desirable, though nothing come of it, as being of itself a treasure, and a sufficient remuneration of years of labour."

(Newman, 1859, p.158)

"Thinking Skills" as a Focus for the Curriculum

References to **thinking skills** are ubiquitous in education and provide the focus for many educational goals and objectives.

Skill sets such as those listed below are popularly considered to be broadly useful not only in academic pursuits but in work and life generally, and to be transferable from one field to another.

For intellectual activities such as problem-solving and critical thinking, I prefer the designation "habit of mind" to either "thinking skill" or "skill set." Strictly speaking, a skill is discrete and perfectible through practice; large skill sets such as problem-solving, communication, and critical thinking are clearly not discrete, and even the notion of a set of skills is problematic in this respect. As well, thinking skills tend to be highly context dependent and content dependent. One might be able to think critically about English literature and less able to think critically about the use of statistics in a field of study; able to think critically about theories of mental illness, and less able to think critically about events leading to World War I. Only in the very broadest sense can thinking skills be considered generalizable and transferable; a habit on the other hand — an inclination to behave in a certain way — is another matter.

Habit of mind refers to "a *pattern of intellectual behavior* that... [is] a composite of many skills, attitudes and proclivities." A habit of mind involves:

- a dispositional element — a tendency, inclination, predilection
- a values element — a choice, mind set, commitment
- an intellectual element — knowledge of what the process is and what it involves
- a strategic element — the capability to adopt suitable strategies
- a contextual element — knowledge of the subject area within which one is working.

(Barrow & Millburn, 1990)

I highly recommend the website of The Critical Thinking Community - www.criticalthinking.org - a U.S. based Foundation for Critical Thinking, as the best source I have found for practical and theoretically sound guidance on the teaching of critical thinking. I have found the essential intellectual traits and the universal intellectual standards identified by this foundation to be helpful in developing my own ideas about habits of mind:

> Universal intellectual standards are standards which must be applied to thinking whenever one is interested in checking the quality of reasoning about a problem, issue, or situation. To think critically entails having command of these standards. To help students learn them, teachers should pose questions which probe student thinking; questions which hold students accountable for their thinking; questions which, through consistent use by the teacher in

the classroom, become internalized by students as questions they need to ask themselves. (Paul & Elder, 2006).

Critical Thinking is "the careful, deliberate determination of whether we should accept, reject, or suspend judgment about a claim, and the degree of confidence with which we accept or reject it."

(Moore and Parker, 2005)

A Disposition to Think Critically requires:

- **Open-mindedness**
- **Willingness to challenge and be challenged**
- **A tendency to question the given, and to probe assumptions and biases**
- **A tendency to pursue and demand justification, to discover underlying grounds and sources**
- **A tendency to be deliberate and reflective rather than impulsive and intuitive**

"Essential" Intellectual Traits[1]

Humility vs. Arrogance

- Being conscious of the limits of one's knowledge
- Being sensitive to bias, prejudice, and limitations to one's viewpoint
- Recognizing that one should not claim more than one actually knows

Courage vs. Cowardice

- Fairly addressing ideas, beliefs, or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing
- Recognizing that ideas considered dangerous or absurd are sometimes rationally justified (in whole or in part) and that conclusions and beliefs inculcated in us are sometimes false or misleading

Empathy vs. Closemindedness

- Imaginatively putting oneself in the place of others in order to genuinely understand them
- Remembering occasions when we were wrong despite an intense conviction that we were right, and imagining being similarly wrong again

Autonomy vs. Conformity

- Rationally controlling one's beliefs, values, and inferences
- Analyzing and evaluating beliefs on the basis of reason and evidence

Integrity vs. Hypocrisy

- Holding oneself to the same rigorous standards of evidence and proof to which one holds one's antagonists
- Honestly admitting discrepancies and inconsistencies in one's own thought and action

Perseverance vs. Laziness

- Using intellectual insights in spite of difficulties, obstacles, and frustrations
- Adhering firmly to rational principles despite irrational opposition of others
- Struggling with confusion and unsettled questions

Fairmindedness vs. Intellectual Unfairness

- Treating all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community, or nation, and without reference to one's own advantage or the advantage of one's group

Confidence in Reason vs. Distrust of Reason and Evidence

- Maintaining confidence that one's own higher interests and those of humankind at large are best served by giving the freest play to reason, and by encouraging people to come to their own conclusions through developing their own rational faculties
- Believing that people can learn to think for themselves, to form rational view-points, draw reasonable conclusions, think coherently and logically, persuade each other by reason and become reasonable persons, despite deep-seated obstacles in the character of the human mind and in society as we know it

Universal Intellectual Standards[2]

Clarity

- Could you elaborate further? Give me an example?
- Could you illustrate what you mean?

Accuracy

- How could we check on that?
- How could we find out if that is true?

Precision

- Could you be more specific? Give me more details?

Relevance

- How does that relate to the problem?
- How does that help us with the issue?

Depth

- What factors make this a difficult problem?
- What are some of the complexities of this question?

Breadth

- Do we need to look at this from another perspective?

Logic

- Does all this make sense together?
- Does your first argument fit in with your last?
- Does what you say follow from the evidence?

Significance

- Is this the most important problem to consider?
- Which of these pieces of information are most important?

Fairness

- Do you have any vested interest in this issue?
- Are you sympathetically representing the viewpoints of others?

How will you teach it?

ALTERNATIVE PEDAGOGIES

How you organize for teaching and learning, what teaching strategies you choose, how you interact with students, and how you ultimately evaluate student learning is intimately connected to the goals, objectives, and outcomes you have identified for your course or program.

Some organizational formats impose severe restrictions on the pedagogical choices instructors have; many approaches suitable for small groups are not possible with large groups, or in on-line or distance education situations.

All the following pedagogical approaches have a place at the university level:

- Lectures, tutorials
- Seminars
- Inquiry-based learning
- Problem-based learning
- Project-based learning
- Case-based learning
- Service-learning
- Self-directed learning
- Interdisciplinary study
- Experiential learning
- Cooperative learning
- Journals & logs
- Narrative & reflective writing
- Laboratories
- Demonstrations
- Clinical or field placements

Some of the approaches listed here, notably lectures and tutorials, are often used to justify a *transmission model* of curriculum, which is further justified by arguments about covering the necessary content in a course or program. Other approaches in this list support a *transactional* model of curriculum, and some will also support curriculum as a *transformational* experience. If you are interested in including any of these teaching methods in your courses you can seek assistance from the staff in the Teaching Support Centre. In addition to knowledgeable staff, they have a comprehensive library of books and journals to support your needs.

The approaches you should choose depend upon what you want to accomplish.

A REMINDER ABOUT COVERAGE

An instructor's concern for coverage — of what has always been taught in a course or what has been taken for granted as necessary for the next course — tends quickly to shut down discussion about alternative pedagogies. There is no doubt that many approaches to teaching and learning require more time than does lecture and tutorial. There is a degree to which a choice must be made — a choice between coverage and understanding; between transmission and transaction or transformation. Howard Gardner's admonition is worth repeating:

[You] have to decide what to leave out, what's [less important right now and can be left for later]...and then really focus on... tackling important questions and reaching deep understanding... Understanding takes time, and the greatest enemy of understanding is coverage. If you are determined to cover everything, you guarantee that most [students] will not understand.

(Steinberger, 1994, p. 26)

PEDAGOGIES OF ENGAGEMENT[3]

"Pedagogies of engagement" (Shulman, 2005) engage students — in thinking, discussing, reading, researching, arguing, debating, defending, presenting, experiencing, reflecting, inquiring — in activities that promote the development of concepts, deep understanding, and, possibly, transformation.

Interactive Pedagogies

Emphases: growth and development in inquiry and other ways of thinking and learning

Requirements: rich environments in which students interact with tasks, concepts, principles, and situations of interest to them

- Collaborative learning
- Cooperative learning
- Problem-based learning
- Inquiry learning
- Service-learning
- Case studies
- Community-based research
- Internship & practicum experiences

Formative Pedagogies

Emphases: developing personal and professional identities; articulating beliefs and values

Requirements: supportive environments conducive to reflection and dialogue

- Narrative
- Autobiography
- Service learning
- Reflective journal writing
- Case studies
- Community-based research

Critical Pedagogies

Emphases: developing a critical consciousness; recognizing and evaluating power structures; understanding oneself as an active agent in society; identifying and creating conditions for a more just society

Requirements: inclusive, empowering environments; opportunities to develop autonomy and participate in choosing topics, themes, and questions to be studied; critical social theory, feminist theory, post-modern and post-colonial theory

- Student-centered dialogue
- Collaborative learning
- Narrative and biography
- Service learning
- Community-based research
- Reflective journal writing
- Case studies

Intents, Aims, Goals, Objectives, Expectations, and Outcomes

Intent/Goal/Aim: a statement about the larger, general intentions of a program or course of study

Objective/Outcome/Expectation: a specific description of what students will know, be able to do, or otherwise gain from a program or course

Concerning the words in the title of this section, I very much agree with David Prideaux of the School of Medicine at Flinders University in South Australia:

> *I usually find it difficult to explain the difference between a significant and worthwhile objective and a well-written and well-defined outcome, and...I ask myself whether such fine distinctions really matter. After all, it is not the statements of objectives or outcomes in themselves that are important but* ***the questions that must be posed and answered in arriving at their definition.*** *[emphasis added] (2000, p. 168)*

The terms *outcomes* and *expectations* have been introduced into the educational literature over the last 20 years or so in part to help educators move away from the notion that the only good objective is a behavioural objective. Objectives should be specific and clear, and should focus on what students will learn — on expectations and learning outcomes for students — but they need not focus on specific, observable, measurable behaviours. A good objective is student-focused and learning-focused.

Begin your thinking about goals, objectives, outcomes, and expectations by going back to your mission and values statements, and your philosophy of education.

- Why are you here? Why are you offering this course and this program?
- What should students know and be able to do at the end of the program?
- What lasting effects should this course or program have on them?

Consider the possibility that, as central as knowledge is to education, it is not the only worthwhile kind of learning goal. In some courses or programs, goals other than knowledge goals may even be the more important goals. Consider the following four categories of learning goals — and whether identifying objectives and expectations in some or all of these categories might be important for your course or program.

- Knowledge: Facts, Concepts, Enduring Understandings (see page 13)
- Habits of Mind (see page 17)
- Values, Beliefs, & Attitudes
- Abilities & Skills

VALUES, BELIEFS, & ATTITUDES

Values, beliefs, and attitudes may appropriately be represented among your outcomes for student learning. Indeed, in many fields, certain values help to identify and define the field, and certain beliefs and attitudes characterize individuals who work in that field:

- Collegiality & collegial work habits
- Ethical awareness & ethical practice
- Professional accountability
- Empathy, caring, compassion, respect
- Social advocacy & social justice
- Rational, logical, objective analysis based on evidence
- Holistic, integrated, inclusive praxis
- Autonomy, transparency, openness

In professional education attention to values, beliefs, and attitudes is essential:

In professional education it is insufficient to learn for the sake of knowledge and understanding alone; one learns in order to engage in** practice**. Professional education involves teaching ideas, facts, and principles so that they can contribute to skilled professional practice. Professional pedagogies are continuously attempting to forge connections between key ideas and effective practice. But a true professional does not** merely **practice: he or she performs with a sense of personal and social responsibility. In the work of a professional, the performances of practice must not only be skilled and theoretically grounded; they must be characterized by integrity, by a commitment to responsible, ethical service.

(Shulman, Spring 2005, p. 18)

Identity: Related to the development of values, beliefs, and attitudes is the development of a sense of identity in the graduates of a program. Identity refers to a person's understanding of himself or herself as a discrete person, an individual — and as, for example, a professional person: a scientist, writer, therapist, performer, teacher, or athlete.

ABILITIES & SKILLS

In some courses and programs, the development of particular abilities and skills may be among the important objectives.

Artistic, musical, & physical abilities may be developed through the practice of particular psychomotor skills relevant to each area.

Technical skills such as the handling of particular materials or pieces of equipment may have to become second nature to students in some fields and disciplines.

Procedural skills might involve following a manual or other protocol or, for example, learning the steps in developing a film or printing a photograph.

BLOOM'S TAXONOMY

Bloom's (1956) famous taxonomy (which actually had five authors — Bloom, Englehart, Furst, Hill, & Krathwohl) organizes educators' expected learning outcomes into a hierarchy from less to more complex. Research over the last 50 years or so has confirmed the taxonomy as a hierarchy although there is some uncertainty about the placement of synthesis and evaluation in the list. One revision of the taxonomy placed evaluating prior to synthesizing. Others suggest *synthesis and evaluation* are at the same level because both depend on analysis as a foundational process (Huitt, 2004).

The taxonomy is helpful as you think about the expected learning outcomes for your course or program.

Elliott Eisner (2000) on Educational Objectives:

"As objectives and standards become more precise they proliferate and when they proliferate, they swamp [educators'] capacities to deal with them."

(p. 344)

"There is a kind of tension between the desire for clarity that requires specificity and the degree to which specificity impairs the very process it is designed to promote."

(p. 345)

"Educators shape students' conception of what the life of the mind is about by our own emphasis on measured outcomes rather than on the quality of engagement or the character of the journey they have taken."

(p. 346)

At any level of education, some memorization of information is essential, but the mere transmission of knowledge is never an appropriate goal for a course or program. Even in the most basic and introductory of courses, expected learning outcomes should emphasize, at least, comprehension and application of knowledge.

Level	Definition	Sample Student Activities – Use These Verbs For Your Goals, Objectives, And Outcomes
Knowledge	observing and recalling information; knowing dates, events, places; knowing concepts & major ideas	list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name
Comprehension	understanding information; grasping meaning; comparing; contrasting; ordering; grouping; inferring causes; predicting consequences; translating knowledge into new contexts	summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	using concepts, theories in new situations; solving problems using required skills or knowledge	apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	seeing patterns; organizing parts; recognizing hidden meanings; identifying components	analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, infer

Synthesis	using old ideas to create new ones; generalizing from given facts; relating knowledge from several areas; predicting; drawing conclusions	combine, integrate, modify, rearrange, substitute, plan, create, design, invent, compose, formulate, prepare, generalize
Evalutation	comparing and discriminating between ideas; assessing value of theories, presentations; making choices based on reasoned argument; verifying value of evidence; recognizing subjectivity	assess, decide, rank, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare

EXPECTED LEARNING OUTCOMES

Describing a course or program in terms of what students will do and what they will learn provides information up front that helps to guide and direct your planning and their learning. And it helps to determine what to assess during or at the end of the course or program.

Let's look at some simple examples.

Example 1:

"My objective in this course," said the instructor, "is...

- to give you a good set of notes."
- to get through the text with time to spare."
- to cover..."
- to get you ready for..."
- to teach about..."

I am sorry to say I heard all these objectives at one time or another over my years as a student. None of them piqued my interest or inspired me; none told me anything about what I would do or learn. These were instructor-focused objectives that made me want to find a different course to take.

Example 2:

"At the end of the unit, students will, with 90 percent accuracy, list in order the elements of the periodic table."

This objective identifies what students will know and exactly what they will do to show they know it. The focus is clear and the means of assessment is clear. Is it a "good" objective? Technically, perhaps, but some would question the value of a task that for many students will be simply a feat of memorization. As an outcome for the course or an expectation for students, how important is it and how worthy of an academic program?

Example 3:

"At the end of the unit, students will understand the periodic table."

Understanding requires something more than memorization and, certainly, should be an expectation of learning, an outcome for all students. This objective, however, requires a little more specificity about what exactly it means to "understand" the periodic table. What might students do to show they understand it? Perhaps students who can solve problems using the periodic table or identify the characteristics of particular elements using their knowledge of the structure of the periodic table could be deemed to "understand" it.

Example 4:

"By the end of the course, students will be able to:

- use, correctly, MLA style for formatting and citations.
- identify and use literary elements that deepen the human experience of poetry.
- demonstrate a knowledge of the basic organization, structure and function of the major systems of the body and their relationship to one another."

These objectives identify expectations for student learning, outcomes of their participation in a course. An instructor who identifies objectives such as these can go on to make informed choices about how to teach and how to assess, and to answer such instructor-focused questions as these:

- what knowledge (facts, concepts, theories, ideas) do I need to teach?
- what approaches, techniques, strategies, in-class exercises, and out-of-class assignments will promote student learning?
- in the end, what will I ask students to do to show they can use or demonstrate their learning?

Example 5:

"By the end of the course, students will demonstrate their ability to think critically about important issues in [the field]."

If *thinking critically* is worth identifying as an expectation for students, an outcome of the course or program — it is worth teaching and worth evaluating. Although there is no agreement on how best to teach students to think critically — if, indeed, "teach" is the operative word — instructors must answer for themselves and their students the basic curriculum questions:

- What do students need to know about critical thinking?
- What will help students actually to develop their ability to think critically?
- In the end, what can I ask students to do to demonstrate they can think critically? How can I evaluate their learning?

Tips for Writing Learning Outcomes

Ensure your learning outcomes focus not on what you will do but on what students will be able to do at the end of the course. A phrase such as "students will be exposed to..." is not about student outcomes.

Avoid vague terms such as know, appreciate, be familiar with, or learn; such terms suggest you have not thought carefully about what you want students to get out of your course.

Tell your students in your learning outcomes what they will be expected to do to demonstrate they have achieved the outcome. If the outcome involves understanding, perhaps students will outline, explain, describe, model, or apply what they have learned in a new context. If the outcome involves critical or creative thinking, perhaps they will synthesize, evaluate, or extend what they have learned.

How will you know you have taught it?

ASSESSMENT & EVALUATION

I have always found assessment and evaluation to be among the most challenging parts of an educator's job. It is enormously complex — philosophically, theoretically, educationally — and notoriously difficult to do well. Even done well, the results are at best an approximation of reality at a particular moment. That does not, of course, mean we need not pay it careful attention or expend great amounts of time and energy on it.

My basic principles of assessment and evaluation are these:

- All forms of assessment have both formative and summative aspects to them.
- All forms of assessment have values — your educational values — wrapped up in them; nothing will speak more clearly to your students about what you value in education than the forms of assessment you choose to use.
- All forms of assessment, because they require educators to make choices and say something about what is valued, have a subjective component to them.
- Many important goals and objectives may be difficult to assess and to quantify, but should nevertheless be addressed in the assessment process.
- Assessment is most meaningful when it is varied, on-going, and integrated into the teaching/learning process.

My basic guidelines for assessment and evaluation are these:

1. Know why you are assessing and evaluating; it might be because...

- Before you teach, you need to know what your students already know (or don't know), and where their strengths and weaknesses lie;
- You need to know where they are now in order to plan what to teach next;
- You changed the textbook or tried a new instructional strategy, and you want to know if it is "effective";
- You and your students want to know whether or not they are learning what you want them to learn (and you need grades at the end of the course).

2. Know what you are assessing and evaluating:

- Consider the goals, objectives, and outcomes you identified for your students;
- Consider the content you taught — information, concepts, "big ideas";
- If habits of mind, attitudes, beliefs and values, or particular skills were among your goals, consider which of those you will try to assess — and how.

3. Pause and reflect:

- Look back over your lists of goals, objectives, and outcomes, and think about the teaching approaches and teaching strategies used in the course or program:
  - » Is there alignment? Did the teaching strategies give students a realistic and fair chance to achieve your goals, objectives, and outcomes? For example:
  - » Did you simply tell your students critical thinking was important or did you ask questions in class that showed them you valued critical thinking and gave them opportunities to practice critical thinking?
  - » Did you simply tell your students they needed to understand concepts or did you create opportunities for them actually to use those new concepts in analytic and problem-solving situations?
  - » Did you merely list professional formation as one of your goals or did you employ formative pedagogies in a substantial way?

4. Choose and design your methods of assessment and evaluation.

- If there is alignment between your objectives and your teaching methods, your next step is to choose methods of assessment and evaluation that continue that alignment.

Please see the Additional Resources section (Appendix B) for Internet resources that address great varieties of assessment methods.

One More Metaphor and Some Encouragement: Curriculum as Conversation

> ***What is basic [in education] is not a certain set of texts, or principles or algorithms, but conversation that makes sense of these things. Curriculum is that conversation. It is the process of making sense with a group of people of the systems that shape and organize the world that we can think about together.***
>
> *(Grumet, 1995, p. 19)*

Think about curriculum as a conversation with your students — a conversation that will help them make sense of the subject at hand. As well, think about curriculum development and review as a conversation — with all those groups that have an interest in your course or program — colleagues, administrators, students, graduates, employers, and professional partners — and with your discipline or field.

> ***All change, even very large and powerful change, begins when a few people start talking with one another about something they care about... We rediscover a sense of unity. We remember we are part of a greater whole. And as an added joy, we also discover our collective wisdom. We suddenly see how wise we can be together.***
>
> *(Wheatley, quoted in Stiehl & Lewchuk, 2005)*

Curriculum development and review can seem a daunting task—but all it needs to get started, and to be maintained, is conversation. Good luck.

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Appendix A

ONTARIO COUNCIL OF ACADEMIC VICE-PRESIDENTS (OCAV) UNIVERSITY UNDERGRADUATE DEGREE LEVEL EXPECTATIONS

Introduction

The globalization of higher education has led to the need to be able to compare and contrast the variety of qualifications granted by academic institutions for credit transfer, graduate study preparation and professional qualification. Similarly, jurisdictions with decentralized systems are looking for ways to measure academic equivalencies. In addition, in order to be able to evaluate and monitor the effectiveness of all aspects of instruction, institutions, accrediting authorities and funding bodies have begun to clarify the outcomes expected of graduates. In response to a national initiative to state degree expectations, the Executive Heads of Ontario's publicly assisted universities asked OCAV to prepare a framework to reflect expectations of performance by the graduates of the Baccalaureate/Bachelor's programs of Ontario's publicly assisted universities. The document, "Guidelines for University Undergraduate Degree Level Expectations," developed by the Ontario Council of Academic Vice-Presidents was subsequently endorsed by the Council of Ontario Universities on December 16, 2005.

The degree level expectations in OCAV's "Guidelines" elaborate the intellectual and creative development of students and the acquisition of relevant skills that have been widely, yet implicitly, understood. Here they are explicitly stated. Ontario's universities have agreed to use OCAV's "Guidelines" as a threshold framework for the expression of their own degree level expectations, which will be consistent with this document – or may indeed go beyond it. In articulating its statement of degree level expectations, each institution is free to use language that reflects its own mission, ethos, values and culture.

Approved: Council of Ontario Universities, December 2005

Updated: May 2006; September 2007

1. DEPTH AND BREADTH OF KNOWLEDGE

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

a) A general knowledge and understanding of many key concepts, methodologies, theoretical approaches and assumptions in a discipline

b) A broad understanding of some of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines

c) An ability to gather, review, evaluate and interpret information relevant to one or more of the major fields in a discipline

d) Some detailed knowledge in an area of the discipline

e) Critical thinking and analytical skills inside and outside the discipline

f) The ability to apply learning from one or more areas outside the discipline

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

a) A developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline

b) A developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines

c) A developed ability to: i) gather, review, evaluate and interpret information; and ii) compare the merits of alternate hypotheses or creative options, relevant to one or more of the major fields in a discipline

d) A developed, detailed knowledge of and experience in research in an area of the discipline

e) Developed critical thinking and analytical skills inside and outside the discipline

f) The ability to apply learning from one or more areas outside the discipline

2. KNOWLEDGE OF METHODOLOGIES

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

- An understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:
  - » evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques; and
  - » devise and sustain arguments or solve problems using these methods.

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

- An understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:
  - » evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques;
  - » devise and sustain arguments or solve problems using these methods; and
  - » describe and comment upon particular aspects of current research or equivalent advanced scholarship.

3. APPLICATION OF KNOWLEDGE

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

a) The ability to review, present, and interpret quantitative and qualitative information to: i) develop lines of argument; ii) make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study; and

b) The ability to use a basic range of established techniques to: i) analyse information; ii) evaluate the appropriateness of different approaches to solving problems related to their area(s) of study; iii) propose solutions; and

c) The ability to make use of scholarly reviews and primary sources.

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

a) The ability to review, present and critically evaluate qualitative and quantitative information to: i) develop lines of argument; ii) make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study; iii) apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline; iv) where appropriate use this knowledge in the creative process; and

b) The ability to use a range of established techniques to: i) initiate and undertake critical evaluation of arguments, assumptions, abstract concepts and information; ii) propose solutions; iii) frame appropriate questions for the purpose of solving a problem; iv) solve a problem or create a new work; and

c) The ability to make critical use of scholarly reviews and primary sources.

4. COMMUNICATION SKILLS

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

- The ability to communicate accurately and reliably, orally and in writing to a range of audiences.

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

- The ability to communicate information, arguments, and analyses accurately and reliably, orally and in writing to a range of audiences.

5. AWARENESS OF LIMITS OF KNOWLEDGE

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

- An understanding of the limits to their own knowledge and how this might influence their analyses and interpretations.

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

- An understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analyses and interpretations.

6. AUTONOMY AND PROFESSIONAL CAPACITY

Baccalaureate/Bachelor's Degree

This degree is awarded to students who have demonstrated:

a) Qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring: i) the exercise of personal responsibility and decision-making; ii) working effectively with others;

b) The ability to identify and address their own learning needs in changing circumstances and to select an appropriate program of further study; and

c) Behaviour consistent with academic integrity and social responsibility.

Baccalaureate/Bachelor's Degree: Honours

This degree is awarded to students who have demonstrated:

a) Qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring: i) the exercise of initiative, personal responsibility and accountability in both personal and group contexts; ii) working effectively with others; iii) decision-making in complex contexts;

b) The ability to manage their own learning in changing circumstances, both within and outside the discipline and to select an appropriate program of further study; and

c) Behaviour consistent with academic integrity and social responsibility.

Appendix B

ADDITIONAL RESOURCES

General

- The Resources section on the Teaching Support Centre website www.uwo.ca/tsc/resources_topicspecific.html contains links to hundreds of excellent resources on teaching and other topics in higher education.
- The Teaching Support Centre maintains a library of over 600 books, articles, journals, newsletters, and videos. The library is located on the main floor of The D. B. Weldon Library, Room 122. To find a book in the TSC collection, search the Western Libraries catalogue and choose "Teaching Support Centre" in the "Limit by Library or Collection" drop-down box to perform a search of our collection.

Assessment methods for higher education

- **Alternative assessment in higher education: Websites for a learner-centered approach**
  wikis.ala.org/acrl/index.php/Alternative_Assessment_in_Higher_Education
  Bonnie Chauncey's extensive list of Internet resources for alternative assessment approaches, originally published in the November 2004 issue of C&RL News and updated July 2006
- **Internet Resources for Higher Education Outcomes Assessment**
  www2.acs.ncsu.edu/UPA/assmt/resource.htm
- **Authentic Assessment Toolbox**
  jonathan.mueller.faculty.noctrl.edu/toolbox/tasks.htm
- For research on evaluation, see the *American Journal of Evaluation*. These two articles on evaluation theory are written by two of the most outstanding education writers of the last half century:
  - » **A World Larger than Formative and Summative**
    Michael Quinn Patton
    American Journal of Evaluation, Vol. 17, No. 2, 131-144 (1996)
  - » **Types of Evaluation and Types of Evaluator**
    Michael Scriven
    American Journal of Evaluation, Vol. 17, No. 2, 151-161 (1996)
- The **Assessment and Test Construction Resources** on the Teaching Support Centre website lists more resources, including workshop materials, presentations, articles and books available in the Teaching Support Centre library: www.uwo.ca/tsc/assessment.htm

Instructional Methods

- Barbara Gross Davis' *Tools for Teaching* (1993) is an excellent source of in-depth advice on strategies and suggestions to improve teaching practice. Excerpts are on-line at teaching.berkeley.edu/bgd/teaching.html and the full text is available through NetLibrary (accessible via the Western Libraries catalogue)
- *McKeachie's Teaching Tips: Strategies, Research and Theory for College and University Teachers* (2006) is a handbook of research-supported strategies to enhance teaching and learning.

Learning Outcomes

- Definitions and web resources about Learning Outcomes on the Teaching Support Centre website: www.uwo.ca/tsc/learning_outcomes.html
- This **University of Windsor** document addresses the following: what learning outcomes are, how to write a learning outcome, how to determine if students have achieved the outcomes, and contains samples of courses centred on learning outcomes: tinyurl.com/6a6wkl
- Examples of learning outcomes from several disciplines that correspond to levels of Bloom's Taxonomy: ocav.uwaterloo.ca/learning-outcomes-discipline-e

Program Review and Curriculum Map Templates

- Curriculum Development in Higher Education: Faculty-Driven Processes and Practices is a special issue in Winter 2007 of *New Directions for Teaching and Learning* with several excellent articles on curriculum change and review.
- **Guidelines for the Appraisal of Undergraduate Programs** www.uwo.ca/univsec/handbook/general/Guidelines_for_the_Appraisal_of_Undergraduate_Programs.pdf
- The official **UPRAC Review and Audit Guidelines (COU)**: www.cou.on.ca/content/objects/UPRACGuidelineswithDegreeExpectationsFinal.pdf
- The **University of Waterloo** has developed an Excel spreadsheet curriculum mapping template that is consistent with the categories, subcategories, and sub-subcategories of the OCAV undergraduate degree level expectations for Honours degrees: ocav.uwaterloo.ca/curriculum-mapping-template
- A curriculum map from the **University of British Columbia** Occupational Therapy program: www.ot.med.ubc.ca/students/prospective_students/curriculum.htm
- *Outcomes-Based Academic and Co-Curricular Program Review* (2006) by Marilee Bresciani is an excellent resource on assessment of learning outcomes that shares the good practices of forty institutions.

- Linda Nilson's *The Graphic Syllabus and the Outcomes Map : Communicating Your Course* (2007) shows instructors how to communicate their course organization to students using a diagram, flowchart or concept map of the topical organization, and how to chart an outcomes map. More than two dozen examples from a variety of disciplines are included.

University Undergraduate Degree-Level Expectations Guidelines

- **Implementing University Undergraduate Degree-Level Expectations (UUDLEs) in Program & Course Design** is a site from York University designed to share resources and do OCAV-consistent curriculum development:
  degree-expectations.apps01.yorku.ca/wordpress

- **OCAV's UDLEs at UW** website contains background information as well as case study examples and sample syllabi:
  ocav.uwaterloo.ca

Small Group Teaching

- **The Centre for the Study of Higher Education** at the University of Melbourne provides information about various types of small group teaching including leading discussions, students presenting seminar papers, guiding group projects, leading problem-solving sessions, teaching in a laboratory or practical class, problem-based learning, and clinical tutoring.
  www.cshe.unimelb.edu.au/bookpages/chap6.html

Notes

[1] From *The Miniature Guide to Critical Thinking Concepts and Tools* (p. 16) by R. Paul and L. Elder, 2006, The Foundation for Critical Thinking www.criticalthinking.org Copyright 2006 by Foundation for Critical Thinking. Adapted with permission.

[2] *From The Miniature Guide to Critical Thinking Concepts and Tools* (p. 10) by R. Paul and L. Elder, 2006, The Foundation for Critical Thinking www.criticalthinking.org Copyright 2006 by Foundation for Critical Thinking. Adapted with permission.

[3] I owe the expression "pedagogies of engagement" to Lee Shulman who wrote about "signature pedagogies of the professions" and about "pedagogies of uncertainty" and "pedagogies of formation" in "The Signature Pedagogies of the Professions of Law, Medicine, Engineering, and the Clergy: Potential Lessons for the Education of Teacher" (2005), and "Pedagogies of Uncertainty," (Spring, 2005). See also: "Pedagogies of Engagement: Classroom-based Practices." (Smith, Sheppard, Johnson & Johnson, January, 2005).

About the author

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Margaret's professional career reflects her long-standing interests in teaching, science, and educational studies. After a period as an elementary school teacher, an occupation she loved, Margaret went on to explore other interests. These led her to doctoral studies in cell biology, a master's degree in science education, and faculty positions in education at St. Thomas University in Fredericton, at the University of Alberta, and, eventually, at the Faculty of Education here at Western where she has taught pre-service courses in science education and graduate courses in curriculum studies and teacher education. Margaret's research, and that of her graduate students, ranges over topics in all these areas, and she has twice led evaluations of the practicum program in her Faculty. During two years with the Teaching Support Centre, her responsibilities were to support units undertaking curriculum review and development. She is currently Associate Dean for Undergraduate and Preservice Programs in the Faculty of Education.

Teaching Support Centre Purple Guides

Teaching Support Centre

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