INSTRUCTIONAL SKILLS WORKSHOP (ISW)

HANDBOOK FOR PARTICIPANTS

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Acknowledgements

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Douglas Kerr developed the original *Instructional Skills Workshop (ISW) Handbook for Participants* in 1978/9 for use in ISW Facilitator Development Workshops.

This Handbook accompanies the Instructional Skills Workshop Program and is not meant to be used as a "stand alone" text.

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Preface

During the 1970s, as community colleges and institutes in the province of British Columbia (BC) developed and matured, many recognized the need to provide support for instructors who had considerable professional experience and training, but no teaching credential. To address this need, Diane Morrison, then the BC Ministry of Advanced Education's coordinator of professional development programs, contracted for the services of Douglas Kerr, a consultant then employed at Vancouver Community College, to devise and pilot test a program to enhance the instructional skills of these instructors. The program was to be brief and to provide the basic instructional skills required in the post-secondary environment.

And so, in 1978/79 the Instructional Skills Workshop (ISW) was created. Although the ISW was initially intended primarily to provide new instructors with basic instructional skills, early participants found themselves engaged in a process that deeply affected them. They recommended offering the ISW to both new and experienced instructors. The format of the workshop was flexible enough to accommodate those from the wide range of disciplines and experience levels in the post-secondary network across the province.

From the beginning, a key advocate of the ISW has been Diane Morrison, and the workshop has become a component of faculty development programs in colleges, university colleges and institutes across Canada and the USA as well as in other countries.

The ISW program was introduced at the University of British Columbia (UBC) in 1992 as a program designed for teaching assistants, and shortly thereafter, was expanded for faculty and sessional instructors. Since then, well over a thousand people at UBC, from a wide range of disciplines, have completed the workshop. The ISW is now offered at several universities in Canada and the USA.

The original Instructional Skills Workshop had its roots in competency-based adult education. This approach involves working toward an agreed-upon set of competencies required for successful performance in a given field. Competencies are clearly stated and conveyed to the participants in the form of performance objectives. Since then, post-secondary institutions and the ISW network have also begun to encompass a learning outcomes approach in which the emphasis is upon integrated performances as well as mastery of basic competency components of the curriculum.

The heart of the ISW is a series of mini-lessons that participants deliver to each other in a mutually supportive small group. Within the workshop, participants are asked to experiment with a six-phase lesson planning model. We generally use the term "objective" rather than "outcome" within the model when the focus is on planning short focused lessons. Feedback on mini-lessons is provided verbally, in writing by participants, and by means of video recording. The ISW emphasizes learning as well as instructing, and the instructor is viewed as a facilitator of learning. Many participants comment upon the benefits derived from peer feedback and from the opportunity to view instruction from the learners' perspectives. Personal development is encouraged through reflection on one's own teaching practice.

There are no "casual observers" in an ISW as everyone participates fully, including the facilitators who direct the mini-lesson process and deliver topical sessions. The success of the workshop depends on complete commitment from each participant for the entire duration of the workshop.

The overall purpose of the ISW is to help participants develop increased competence and confidence as facilitators of learning and to provide resources to assist individuals to become more reflective teaching practitioners.

This handbook serves three purposes:

1. To provide information for use before, during and after the workshop
2. To help each person participate fully in the ISW
3. To provide tools for reflecting on teaching and learning.

PART A:

Overview of the Workshop

Description

The Instructional Skills Workshop (ISW), an intensive 24 to 30 hour event, is a laboratory approach to the improvement of teaching and learning and can be conducted in a variety of formats. The ISW is facilitated *by* people who teach, *for* people who teach. Each ISW ideally comprises a group of four to six participants and one or two facilitators. Participants review basic ideas about teaching, check current practices, and are encouraged to try new instructional strategies and techniques within the safe environment of the group. The ISW may also include sessions about teaching skills, learner needs, and other teaching and learning themes that arise in learning environments.

The ISW is a developmental activity and is a peer process. While facilitators have had training in the ISW facilitation process, they are instructors just like the participants. The ISW is a collaboration between facilitators and participants that is grounded in active, experiential learning, and based on principles of learning-centred instruction. The ISW raises awareness of and sensitivity to some of the many dimensions of diversity and explores how to help learners benefit from opportunities presented by diverse classrooms. The ISW engenders competence and confidence as an instructor.

Goals

In an ISW, you will have opportunities to:

- work closely with peers to improve each other's teaching
- practice a variety of instructional strategies and techniques
- increase awareness of participatory learning concepts
- connect with colleagues from a range of disciplines
- experience the diversity of a contemporary classroom
- recognize the importance of establishing a positive learning environment
- increase knowledge of self as a teacher.

More specifically, you will practice:

- using learning objectives or expressive outcomes to inform learners of expectations and intentions
- considering the variable needs of learners
- writing useful, practical lesson plans
- conducting participatory lessons
- using questions and question sequences effectively during a lesson
- using common instructional media and resources competently
- using basic techniques to test for learning
- giving and receiving constructive feedback.

Activities

In the ISW, each participant takes on the roles of both instructor and learner. Each participant prepares and conducts three, ten-minute mini-lessons and when delivering a lesson, becomes the *instructor*. When someone else in the group is the *instructor*, the other participants are the *learners*. Immediately following each mini-lesson, *learners* give the instructor feedback on the effectiveness of the mini-lesson. This feedback takes two forms: a) written feedback, and b) verbal feedback in a session guided by a workshop *facilitator*. Mini-lessons are videotaped which provides a third form of feedback. During the verbal feedback session, key points from the video may be played and discussed. Each participant is asked to

view the video in its entirety prior to the next day. During the workshop participants are asked to engage actively as learners, and to give and receive feedback that is honest, constructive and focused on instructor behaviours that can be changed.

The ISW is one of the few opportunities for instructors to observe other instructors teaching and participants are strongly encouraged to experiment with a range of teaching strategies and techniques, including those adapted from other workshop participants or ISW facilitators. This is a time and place to experiment and receive feedback on the effectiveness of the chosen strategies. In the *Reflections on the Workshop* section of this handbook there are a variety of exercises designed to assist you in an ongoing reflective process.

Because of the key role of the continual feedback process, full participant attendance and attention are crucial. In fairness to the other participants, please do not make commitments for any meetings or outside activities during the ISW. While the atmosphere is relaxed, often fun and informal, the workshop is a challenging and an intensive learning experience in which every minute counts, literally.

Participants

Recent participants of the ISW have included:

- new and experienced instructors
- instructors from colleges, institutes, university colleges and universities
- instructors from private educational institutions
- instructors and trainers from business, government, industry, health, tourism and a wide range of other occupations and organizations
- people hoping to gain employment as instructors in their area of expertise.

PART B:

Mini-Lessons

Lesson Planning

A lesson plan is a description of the sequence of activities engaged in by *both* the instructor and learners in order to achieve the desired objective, together with a schedule for the lesson and a list of the instructional resources to be used. A lesson plan is merely a plan, and as such, it is subject to revision and improvisation both during the lesson and after the lesson when reviewing it for changes for next time.

A lesson plan, like the script for a play, describes the activities and relationships of a group of people. It can be carefully written in detail or it can be a simple outline. In either case, the plan contains points of action and of reflection, identifies specific times for direction and for discussion, and identifies ways to generate involvement and enthusiasm. With the bridge-in, an instructor begins with anticipation and intention. The summary closes with accomplishment and resolution.

An instructor needs to consider three basic elements when planning a lesson – the *introduction***,** (bridge-in, objective, pre-assessment) the *body*, (participatory learning) and the *conclusion* **(**post-assessment and summary).

The *introduction* contains and allows time for a period of setting the tone or mood of the lesson. It focuses attention on *what* the lesson will be about, *how* the lesson will unfold and develop, and *why* it is important for the material to be learned. In addition, the introduction should contain time for reviewing the learners' prior knowledge, taking up any work assigned as preparation for the lesson, or questions of clarification before proceeding. This activity is sometimes called "bridging-in" or "setting the context."

The *body* of the lesson reflects a healthy balance between the instructor's presentation (e.g., lecture, demonstration, video) and opportunities for the learners to practice or to be involved in some way in handling the subject material (e.g., discussion, skill practice and drill, role plays, etc.). Often, participatory learning strategies encompass a continual mix and interweaving of instructor presentation and learner interaction, and of action and reflection.

The *conclusion* of the lesson includes time for evaluating learner performance or other reflective activity, a brief summary of what has been done and anticipating the implications for future work.

Rehearsing a lesson is a good idea; however, the actual lesson usually takes more time than a simple "run through" rehearsal of the plan. Learners need time to clarify points, take notes and verify instructions. Instructors need time to move around, manage transitions from one phase to another, and respond to questions. The more participatory the activities that you plan for a lesson, the less precise control you tend to have over the timeframe.

There are many ways to plan a lesson. One way that is commonly used in the ISW mini-lesson cycle involves six lesson basics:

Bridge-in (B)	Participatory learning (P)
Objective or outcome (O)	Post-assessment (P)
Pre-assessment (P)	Summary/Closure (S)

These can be considered the basic elements or components of any effective lesson. Some people use the acronym BOPPPS as a memory aid to help remember these basics. Each of these components is described in more detail in the *Designing Mini-Lessons* section.

Some questions to help focus your lesson planning

1. What is the topic or title of the lesson?

2. What is the objective or purpose of the lesson? By the end of this lesson, what will participants know or be able to do or value?

3. Why should participants learn this? What will you do to support motivation for learning?

4. How does this objective connect to what has been learned before? How will you determine what participants already know, or can do, or value? What pre-assessment may be required?

5. How will you introduce and outline what will happen in the lesson? How will the material be presented? What techniques are best suited to the objective?

6. What would you expect to see the participants doing during the lesson? What sequence of learning activities will unfold?

7. What instructional media and other resources do you need?

8. How do you plan to use the time? How much time should each part of the lesson require?

9. What will you do to find out what participants have learned or to provide feedback on their performance and participation?

10. How will you end the lesson?

Sequencing is a major part of a successful lesson plan. Each of the following sequence patterns can be effective:

- Simple to complex
- More known to less known
- Abstract to concrete (or the reverse)
- Chronological order
- Global to specific (or the reverse)

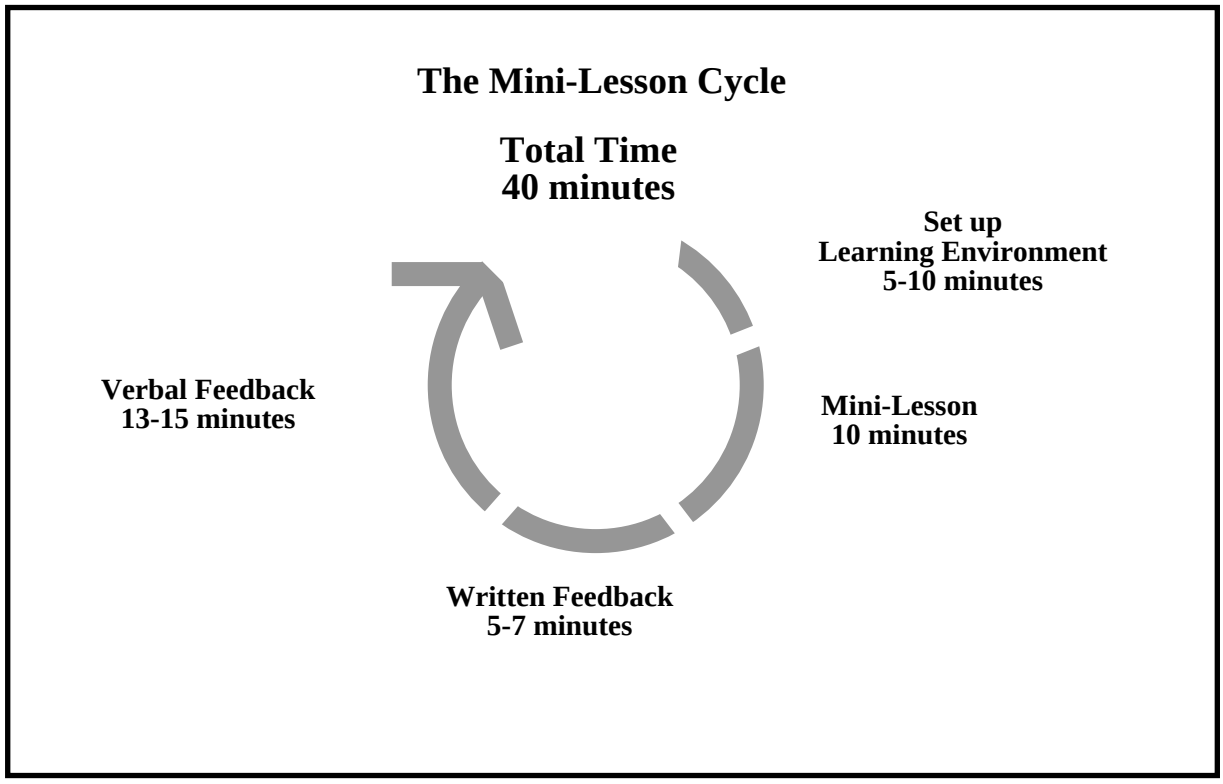
Remember that a lesson plan is merely a *plan*. Sometimes, a moment arises unexpectedly in a lesson where an important point or linkage to other material can be made "out of sequence." Such opportunities are sometimes referred to as a "teachable moment" or "learning instant." Effective instructors often are able to balance between presenting content organized in a logical or otherwise workable sequence and taking advantage of teachable moments that emerge spontaneously from participation by the learners in the lessons. Organization and flexibility are complementary factors in effective instruction.

A lesson plan functions as both a ready reference and a planning tool. It is not a detailed description of every moment of the lesson nor does it try to capture every possibility that may arise. Some people prefer more detailed plans; however, with increasing experience, lesson plans often become shorter and more concise. (Note: If you need more than a page for a mini-lesson lesson plan, you are probably trying to include more content than can be dealt with in ten minutes.)

In conclusion, the most effective lesson plan is the one that works for you. There is no universally-accepted form of lesson plan nor a standard list of lesson plan components. However, a useful guideline is that your lesson plan should include six lesson basics (bridge-in, objective or outcome, pre-assessment, participatory learning, post-assessment and summary/closure).

Designing Mini-Lessons

The Mini-Lesson Cycle



The ten-minute mini-lesson is part of a 40-minute cycle of teaching and feedback known as the mini-lesson cycle.

The roles in the mini-lesson cycle include:

- The instructor — The person conducting the mini-lesson
- The facilitator — The person managing the 40 minute mini-lesson cycle and facilitating the feedback on the mini-lesson
- The learners — The other participants

The phases in the mini-lesson cycle are described below.

Set up Learning Environment (5–10 minutes)

During this time, the instructor sets up to deliver the lesson. Set up may include moving tables and chairs into a more effective arrangement, erasing the board, putting up flip charts, setting up the overhead projector and so on. The instructor provides the facilitator with their properly cued video media. A brief review of the lesson plan with the facilitator may be desired and the instructor may identify potential areas for feedback.

During this time, other participants may assist with set up, do preparation and/or reflection related to their own lessons, or take a short break.

Mini-Lesson (10 minutes)

During the actual mini-lesson segment, the instructor conducts the lesson for the other participants. The facilitator video-records the lesson, makes written observations in preparation for the verbal feedback segment and provides pre-agreed time signals to the instructor. When the facilitator indicates that "time is up," the instructor winds up the lesson, even if it is not completely finished.

Written Feedback (5–7 minutes)

During the written feedback segment, the participants fill out feedback forms. At the same time, the instructor and the facilitator engage in a short one-on-one conversation about the lesson. The main purpose is to reflect on any immediate feelings about the lesson and to identify points to be brought up during the verbal feedback. The facilitator may also replay part of the video, with the sound off or on low volume, during the written feedback phase.

Verbal Feedback (13–15 minutes)

The cycle concludes with group verbal feedback within a feedback session led by the facilitator. This segment is intended to be a discussion in which information (feedback) is provided to the instructor about the lesson just completed. Each participant provides information about his or her own experience as a learner in the mini-lesson. The facilitator leads the discussion, ensuring that the instructor understands the learners' comments and that all participants have a chance to express and clarify their views. The facilitator will ensure that verbal feedback remains on topic, constructive and focused upon the teaching/learning process rather than upon the content of the lesson. In short, this segment of the cycle is not intended as a re-teaching of the lesson nor a discussion about general instructional issues and concerns, but is an opportunity to provide constructive information to the instructor about presentation of the mini-lesson. The instructor will take away this information, reflect upon it and use it as appropriate in future teaching.

Feedback to each participant on the mini-lesson usually includes:

- Comments and questions by the facilitator comparing the lesson plan and the actual presentation
- Verbal feedback from participants from their perspectives as mini-lesson learners
- Written feedback from participants
- Video feedback (participant should review entire video after the workshop in order to compare participant comments with the video record)
- Summary of group verbal feedback by the facilitator
- Information that is immediate and delivered via a range of media: written, verbal and video
- Information that can be combined with or compared to the individual's own experience of conducting the mini-lesson.

Why Ten Minutes?

Ten minutes may seem like a very short time in which to deliver a lesson. Most class sessions are usually at least 40 or 50 minutes in duration; other class activities such as labs are often scheduled for even longer. However a single class or lab session may be composed of a series of shorter components or lessons.

The ten minute mini-lesson reflects a balance between keeping the total time for the workshop to a reasonable length and providing a teaching performance that is long enough to ensure material for feedback. Ten minutes keeps the focus of attention upon the instructional process rather than the subject content of the lesson. Ten minutes is also a reasonable length for participants to recall specific details of the lesson in order to provide feedback.

Designing a ten minute lesson is a useful exercise in improving your ability to be concise. Whether you have ten minutes or ten hours, you will not be able to cover all the content that now exists on any given topic! A key point in real life teaching is to set an appropriate level of detail for lesson material.

Why Three Mini-Lessons?

One rationale for three mini-lessons is premised on a view of change that includes discovery, experimentation and consolidation. The first mini-lesson often provides an opportunity for instructors to discover what they know about teaching and what they want to learn, the second often provides an opportunity for experimentation, risk and innovation in teaching, and the third often provides an opportunity for consolidation and integration of learning about teaching. For some instructors, the first mini-lesson is the discovery lesson, the second provides opportunities for consolidation and in the third mini-lesson they feel comfortable to really experiment with their teaching. By teaching and receiving feedback three times, each participant is able to see his/her own progress in a short space of time. Three mini-lessons may also provide an opportunity to design instruction that is primarily in each of the three following learning domains: cognitive, psychomotor and affective.

In addition to designing and presenting three mini-lessons, all participants have the opportunity to learn from their experiences as learners and as feedback providers within the mini-lessons presented by the other participants.

Feedback

In the Instructional Skills Workshop program, giving and receiving feedback are important skills used and developed by the participants.

During the mini-lesson cycles you will have opportunities to both give and receive feedback. For example, when you are teaching the lesson you will give the learners feedback on how well they are learning. At the same time, you will be receiving feedback (verbal and non-verbal) from the learners about how they are managing with the learning process you have selected. After the mini-lesson you will have an opportunity to hear directly and immediately from the learners through written and verbal feedback on how they experienced your ten minute teaching/learning process.

Rarely do instructors have such opportunity for feedback on their teaching. It is even less often that our "learners" are also other instructors who are prepared to share observations and experiences. All mini-lessons are video recorded thus providing another lens through which to observe your own effectiveness as an instructor. Feedback through these various means can help you to identify your strengths as well as areas you want to improve.

Clear, specific feedback is a very valuable tool. Unfortunately, many of us tend to associate feedback with criticism. Realistically, the road to accomplishment involves learning both what we do well and what we need to improve upon. This necessitates an open and caring environment where your learners feel comfortable enough to offer honest feedback, motivated by your willingness to receive it. Some of the most important information we can receive from, or give to, others consists of feedback related to specific activities. We must always be careful to remember that we are making *observations* and not judgments.

Feedback helps us as instructors in the following ways:
- Affirming our effectiveness and increasing our confidence
- Identifying how we could improve
- Providing a focus for reflection on possible future action.

The voluntary access to feedback that each participant invites by being in the ISW needs to be handled forthrightly and with sensitivity. It is important to have an open and caring environment where there is an atmosphere of trust and participants feel safe. This is why the workshop begins with some fairly elaborate "let's get to know each other" exercises.

Tip on feedback: An important guideline for ISW participants is to accept that all of the participants are making an honest effort to provide useful feedback.

Verbal Feedback

Feedback in any classroom situation should be constructive, that is, it should provide people with the materials (metaphorically) to analyze and then if necessary, reconstruct their teaching and/or learning behaviours.

Constructive feedback is helpful and has the following ideal characteristics:

- *Specific***,** rather than general. Specific information helps the receiver reflect on immediate behaviour. General feedback may confuse and can lack impact.
- *Descriptive*, as opposed to evaluative, and avoids using judgmental terms, such as "good" or "bad."
- *Behavioural***,** rather than inferential. Refers to what the person does, rather than suggesting reasons for their actions. (Example: "Bob, you continually rattled the change in your pant's pocket." Not "Bob, you seemed very nervous tonight.")
- *Balanced***,** in that it provides positive feedback and suggestions for development.
- *Manageable* amounts of information are provided, without overloading.
- *Changeable***,** in that it is directed toward behaviour that the receiver can change.
- *Solicited*, rather than imposed. Feedback is often most useful when the receiver has a question the observers can answer.
- *Timely*, in that it is delivered when the mini-lesson is fresh in the participants' minds.
- *Checked* for understanding to ensure clear communication.

In an Instructional Skills Workshop, both giver and receiver can check with others on the consistency of the feedback across the group. "Is this one person's impression or a shared impression?" Each may check for clarity: "Is this what I heard?" In addition, expect that some points that are raised in the feedback session may not be perceived as equally significant or even the same by all.

Guidelines for Giving Feedback

- Focus first on the positive
- Refer to what the person does, rather than to personal characteristics of the person
- Refer to what you observed or felt, not why you think it happened that way
- Rank the behaviour as more or less, not in judgmental terms such as "good" or "bad"
- Decide on the value the feedback will have for the person receiving it, not on the degree of "release" it gives you to express it.

Tip on giving feedback: Whenever possible, frame comments in the form of an assertion. E.g., "I found your handouts helped me." or "To me, your handouts contained more information than necessary to achieve the objective. I started to get confused." If you are uncertain about your comment you could frame it as a question. E.g., "What was your objective for that lesson?"

Guidelines for Receiving Feedback
Respond honestly and consider all points. It is often useful to accept all feedback initially and then set about to clarify its meaning, identifying its implications, and ranking it in terms of its importance. If you disagree with the feedback, try to avoid arguing before you have had time to personally reflect on your experiences.

Consider the following principles for receiving feedback:
- Make eye contact with the feedback giver
- Accept all feedback initially
- Paraphrase what you hear
- Ask for specifics if unclear
- Give honest, experiential responses
- Focus on the positive
- Determine importance
- Separate your feelings from the content
- Avoid attempting to re-teach the lesson as a response to the feedback.

Tip on receiving verbal feedback: It is often helpful to remain quiet while receiving feedback so you don't take up too much air time that could be used for receiving or clarifying learner feedback. Respond honestly and consider all of the points brought out, but if you disagree, save your disagreements for the really key points about your teaching.

Written Feedback

Written feedback not only provides an instructor with useful feedback on the teaching, but also provides the observers with a moment of personal reflection prior to sharing their responses with the group. Writing feedback is a required ability for all educators and this is an opportunity to practice one's written communication skills.

Feedback Forms
Various forms have been put together to help learners to be as specific as possible. Participants are asked to respond to as many items as appropriate to the specific instructional session. Some items may not be relevant to a particular session, and there may be comments that you wish to make about factors that are not listed.

Questions to keep in mind when reviewing the feedback forms:
- Is the comment focused on what the instructor actually said or did during the lesson?
- Is the comment an "I" statement? I.e., what I actually saw, thought, heard or felt?
- Does it describe what the instructor did that was more effective? Less effective?
- What specific suggestions are provided to consider doing next time?

Tips for completing written feedback forms: A form is a guideline to help you focus your response. It is okay to write down "Not Applicable" and/or to make additional comments if you think it is appropriate.

Video Feedback

Each mini-lesson is video recorded. The video is a *representation* of how you appear to others. You may look and sound different than you expect. Video is helpful because it provides a permanent record that is a detailed account of the lesson.

Tips on viewing video feedback: Review your video as soon as possible after the mini-lesson (i.e., the same day) and in conjunction with the written feedback. This will help to reinforce your strengths and areas for improvement as well as to clarify any questions you may have. Try reviewing the video on "fast forward" as well as on normal speed. If you have any distracting mannerisms or if you move around a lot or very little, it will become obvious. However, remember what *you* find "distracting" or "annoying" could be of little concern to your learners – ask them for specific feedback about your mannerisms. You may also want to view the video with the sound off, so you can better notice body language – an important part of the interpersonal communication message.

Lesson Basics: The Model

Many models exist for planning lessons. The lesson basics used in Instructional Skills Workshops are sometimes referred to by an acronym, "BOPPPS" and are focused on the following six components:

1.	**B**	**Bridge-in**	Begins the learning cycle, gains learner attention, builds motivation, and explains why the lesson is important.
2.	**O**	**Objective or Outcome**	Clarifies and specifies the learning intention: clarifies what the learner should know, think, value or do by the end of the lesson, under what conditions and how well.
3.	**P**	**Pre-assessment**	Answers the question, "What does the learner already know about the subject of the lesson?"
4.	**P**	**Participatory Learning**	This is the body of the lesson, where learners are involved as actively in the learning process as possible. There is an intentional sequence of activities or learning events that will help the learner achieve the specified objective or desired outcome. The lesson may include the use of media.
5.	**P**	**Post-assessment**	Formally or informally demonstrates if the learner has indeed learned and is linked directly with the objective or outcome.
6.	**S**	**Summary/Closure**	Provides an opportunity for the learners to reflect briefly and integrate the learning during the closing of the learning cycle.

A mini-lesson should be a complete segment of instruction. The only limitation on topics is that they should offer some learning to the participants in the workshop. It is recommended that the instructor not "lift" a section from a larger unit or ask the participants to assume an identity they do not have. For example, we suggest that you not start by saying, "this is something I do when I am teaching the third class in a course on interpersonal communications for nurses" or "this is a topic that usually takes an hour" or "imagine you are a fourth year physics student."

Tip on topics: Many participants have found that selecting a topic from a personal rather than a professional pursuit or area of interest helps one focus more on the process of teaching than on the content.

These lesson basics are explained in more detail in the next section, *Lesson Basics in Detail*.

Lesson Basics in Detail

1. Bridge-In

Responsibility for learning rests primarily with the learners. At the same time, the instructor has a responsibility to create conditions to make learning easier for learners. The bridge-in is meant to gain attention and establish relevance for the lesson. Sometimes known as the "motivational statement" or "hook," the bridge-in helps the learners focus on what is about to happen in the lesson.

An effective bridge-in enhances motivation to learn by connecting the learners to the content of the lesson in an interesting and relevant way. In lessons where the motivation may be less than optimal, the bridge-in is particularly important. Unenthusiastic learners can be "hooked" if the bridge-in provides answers to questions like "What's in it for me?" "Why does this matter?" and "Why should I learn this?"

Bridge-ins are usually short. Some simple strategies include:

Providing reasons for learning this topic; explaining why this topic is important and how it may be useful in other situations; describing how it is a transferable skill

- Telling a story connected with the lesson topic
- Referring to something in the learners' realm of experience
- Posing a provocative question linked to a current topic or the learners' personal lives
- Offering a startling statement or unusual fact
- Linking current topic to material already studied or to future learning.

Examples:

Topic: Basic Grammar in French Conversation for Beginners

Bridge-In: "A review of basic French grammar will make it possible to construct sentences rather than simply memorize phrases. So, not only will you be able to write more effectively but you will also find conversation easier." (rationale plus reference to transferable skills)

Topic: The Phenomenon of *déjà vu* in Introductory Psychology

Bridge-In: "How many times have you found yourself in a particular situation, thinking that you have been in it, or something identical, before?"(common realm of experience)

Topic: Load Bearing Walls in Carpentry

Bridge-In: "Yesterday we learned how to frame and construct walls. Today we are going to discuss the differences between load-bearing walls and non load-bearing walls. Knowing the difference between these two walls can literally determine whether you will have a roof over your head or if all will come crashing down!" (connection to previous material, rationale and humour)

Topic: Knots in Basic Sailing

Bridge-In: "Knowing how to tie the appropriate knot could be the difference between finding your boat where you tied it up the next day – or NOT!" (providing a rationale; this may lead to telling a story)

2. Learning Objectives and Expressive Outcomes

In everyday language, terms such as aim, purpose, outcome, goal, and objective are often used interchangeably. In training and education, these terms have more specific meanings.

Aim and purpose are terms used to describe the most general intentions of a program or course. These can usually be stated in one or two sentences. For example, a purpose statement for a baking program might say: This program prepares students for employment in the hospitality industry.

The term learning outcome is often defined as a general statement that summarizes and integrates the learning achieved in several related goals or objectives by the end of a program or course. The term describes what a learner may "get out of" a program or course. For example, one (of several) learning outcomes for a baking program might say: This program provides learners with opportunities to develop the knowledge, skills, and attitudes related to preparing the variety of desserts required in fine dining restaurants and in major hotels and convention centres.

Goal is a term used to describe more specific, but still general, intentions of a program or a course. For example, one (of several) goal statements in a dessert-making course might say: By the end of this course, learners will prepare several different common types of pie.

The terms learning objectives and expressive outcomes are described in more detail below.

Learning Objectives

Objectives are more specific statements of learning related to a goal. For example, one (of several) objectives related to the "Prepare several different common types of pie" goal might include the phrase: Bake apple rhubarb pie.

The objective for a ten minute mini-lesson is quite specific; for example, and in brief, a mini-lesson objective might state: Describe the process for making pie pastry.

Objectives are generally more suited to topics or situations where:

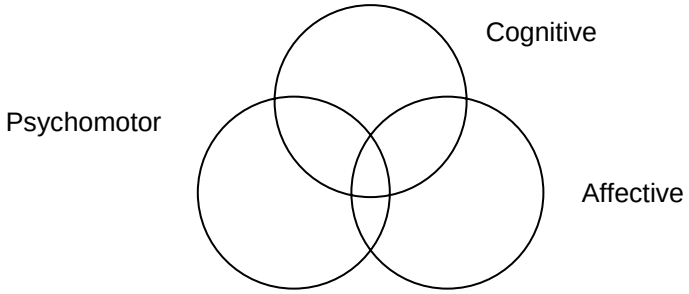
- there are correct ways of doing things
- evaluation is related to the application of some standard
- the results of instruction are homogenous and/or predictable.

While a course may have a few broad general goals and a limited number of learning outcomes, individual lessons *usually* focus on one or more specific learning objectives to reach those goals or outcomes. A mini-lesson will normally encompass *one* objective.

It is generally held that learning occurs in three broad domains – cognitive, psychomotor and affective. These three domains of learning often overlap and many learning activities will fall into the overlapping

areas. While much learning integrates all domains, in a mini-lesson there will usually be a primary focus on one particular domain.

- Cognitive – intellectual outcomes involving factors, theories, concepts, etc.
- Psychomotor – new physical skills, performances, creation of products
- Affective – attitudes, values, beliefs, emotions.



An instructional, learning, or performance objective is a statement that specifies in some observable and/or measurable way what a learner will know or do by the end of a lesson or a series of lessons. Higher level objectives in the affective domain, while not as easily measurable, are usually observable. For example, while a performance statement in the affective domain (e.g., "exhibit a safety-oriented attitude") may not describe a performance that is easy to measure, a statement such as "wear steel-toed shoes" describes a learner performance that indicates a safety performance, if not also a safety attitude. Well-defined objectives are concise, precise, and contain the following elements:

- **Performance –** Specifies *what* the learner will have accomplished, and/or what the learner will do to demonstrate learning. Performance statements must contain an action verb (e.g., "*explain* the circulatory system" rather than "*understand* the circulatory system").

- **Conditions –** Identifies and sets parameters for the performance, that is, *how* it is evaluated (e.g., "freehand with tracing paper" or "working with a partner" or "given the necessary tools").

- **Criteria –** Sets the expectations for mastery, that is, how well it is measured (e.g., "with no more than three errors," or "with 80% accuracy," or "chewy, three-inch diameter, golden-brown, no burns or scorches").

In short, the key to writing useful objectives is to specify the desired learning accurately enough that recognition of learning can be evident. Generally, an objective is written as one sentence that includes:

- *Who* (always the learner or student; but needed to make a complete sentence)
- Will *do what*
- Under *what* conditions
- *How well* (to what standards or criteria).

Example #1

Given a short oral quiz, and without referring to reference material, the learner will correctly state all six elements of the cognitive domain in Bloom's Taxonomy in the proper hierarchical order.

Who:	the learner
Do what:	list elements of the cognitive domain in Bloom's Taxonomy
What conditions:	short oral quiz; no reference material
How well:	all six correctly and in the proper order

Example #2

On an end-of-unit quiz, the learner will explain at least six major effects of World War II on the political, economic and social life in Great Britain. (two effects in each area)

Who:	the learner
Do what:	explain major effects of World War II on the political, economic, and social life of Great Britain
What conditions:	on a quiz
How well:	at least two effects in each area – social, economic, political

Arguments Made For and Against the Use of Learning Objectives

Vigorous arguments have been waged around the issue of learning objectives. The following table identifies some benefits and cautions expressed by previous ISW participants.

Arguments For	Arguments Against
Objectives emphasize what learners will be able to do.	Some important kinds of learning do not result in observable behaviours. Emphasizing objectives distracts us from these kinds of learning.
Objectives sharpen instructors' focus and help emphasize what they are teaching students to do.	Focussing on specific objectives unduly narrows the range of possibility in the classroom and limits spontaneity.
Teaching a sequence of sub-skills that "add-up" to a complex ability works well since this is the way much learning occurs.	Teaching a sequence of sub-skills that "add-up" to a complex ability does not work well since this is not the way much learning occurs: we learn many things more holistically. In addition, there may be too many sub-skills to list and teach them all.
Stating objectives improves both learners' and instructors' accountability.	Listing objectives pushes instructors toward a lowest-common-denominator approach since the process of writing objectives is simpler for lower-order objectives than for critical thinking objectives.

The ISW provides a place for participants to explore the use of learning objectives within mini-lessons and to receive feedback on their use from other participants.

Expressive Outcomes

Background and Definitions

An expressive outcome states the ability a student will possess at the end of an instructional process which focuses upon creative or evocative or unpredictable learning and in which learners express themselves in some way. Most often expressive outcomes are found in courses of the liberal arts, social sciences, fine arts, or other academic areas.

The expressive outcome is a way of documenting curriculum purposes in situations where, for example, there may be several appropriate responses, answers, or solutions. Evaluation of learning can encompass reflection by the learner on the learning event, activity, or experience and/or feedback from the instructor (and/or peers) on the learner performance. The instructional process described by an expressive outcome is characterized by a balance of action and reflection.

The term *outcome* (rather than *objective*) suggests a broadening rather than a narrowing of focus and intention. Expressive outcomes describe higher-order learning in which student expression, thinking, interpretation, creativity, and so on are primary concerns. Expressive outcomes are used when students are faced with unique or unexpected real-life situations in which they must apply knowledge and skills which they have previously learned. Often expressive outcomes are used to integrate previous learning experiences when working toward achieving higher-order employability or generic skills. As such, expressive outcomes work well in environments which encompass learning outcomes and authentic assessment strategies.

For example, expressive outcomes can be used when working in areas such as the affective domain, arts and academic subjects, life skills training, counselling, and human relations. Expressive outcomes document learning situations in which an instructor might say, “Here’s a work place situation you might encounter. What would you do in these circumstances, based on what you’ve learned, and why?”

Expressive outcomes describe situations in which anticipated student learning is *not* always as prescriptive or predictable as are the situations described by more traditional performance or learning objectives (e.g., situations where objectives describe the attitude a person needs to develop related to effective customer service or safety or dental chair-side manner). Also, expressive outcomes can describe higher-order learning in which, for example, the student may hold an acceptable opinion or feeling about something that is quite different from that of the instructor.

Examples of Expressive Outcome Statements

- Advocate and support your views on “x”
- Develop a policy statement for “x”
- Use monochromatic watercolours to evoke a mood of “x”
- Describe changes in your values regarding “x”
- Design and construct a device that will “x”
- Create an advertising brochure for “x”
- Intervene with an angry customer
- Review and critique Chapter 10
- Describe your feelings as evoked by “x”; and so on.

Such statements summarize the learning intention.

A lesson encompassing an **expressive outcome** contains three components:

- **Context**

  Puts the learning event into a particular perspective. (E.g., "Maps are a visual representation of the landscape. Some cultural stakeholders have been marginalized in the process of standardizing maps.") The context may also set the stage, clarify the intention and set the parameters of the experience.

- **Learning event or activity**

  Typically an exercise or activity which involves judgment and values. (E.g., "Discuss conventional maps from the viewpoint of First Nations/indigenous people.")

- **Reflection**

  The process through which learners reflect on the experience to realize, generate, or articulate their insights. (E.g., Journal writing or small group discussion.) This may result in documentation or creation of artifacts, which the learner takes away from the experience.

See *Sample Lesson Plan D* in the *Lesson Plan Formats* section for further information on designing learning activities based on expressive outcomes.

In Summary

Clearly defined learning objectives or expressive outcomes can:

- Provide a basis for the selection or design of instructional media, materials, activities and techniques
- Establish a foundation for the evaluation of the learning
- Focus both the learner and the instructor on the purpose of the lesson(s)
- Help ensure that everyone in the course understands what is expected and when the learning has been accomplished.

Constructing Learning Objectives and Expressive Outcomes

In short, a learning objective usually contains three components (performance, conditions, criteria). A lesson plan using a learning objective follows the BOPPPS lesson basics model as described earlier. The lesson focuses upon achieving the prescribed or pre-determined learning objective.

In short, an expressive outcome is stated as a short phrase indicating the result of intended learning. A lesson encompassing an expressive outcome comprises context, learning event or activity, and reflective activity. Context includes bridge-in, expressive outcome, and perhaps pre-assessment. Learning activity involves participatory learning. Reflection involves assessment, summary, and closure. The lesson focuses upon learner expression or interpretation of subject content.

The process for constructing learning objectives and expressive outcomes is *recursive*, i.e., it is unusual to produce a finished "product" in one attempt. Note that the same procedure can be applied at a larger scale in planning a course. Steps in construction are:

1. **Decide if the objective is primarily "performance" or "expressive."** If there are single correct answers, or well-established performance standards, or you expect all the students to arrive at substantially the same result, then the statement is probably best written as a learning objective that focuses on performance.

2. **Select an action verb that best describes the kind and level of learning expected.** What will the learners be able to do, or what will they have experienced, at the end of the lesson, that they could not do/have not experienced before?

3. **Specify** (a) performance, conditions, and criteria if it is an objective focused on performance; (b) context, learning event, and reflective activities, if it is an expressive outcome. If the objective is focused on a performance, refer to the suggestions in the next section, *Steps in Writing an Objective*.

4. **Outline the component tasks**, which may be more specific objectives,[1] and often suggest a list of activities for a lesson plan.

5. **Compose** the finished learning objective or expressive outcome. Note that this step may require several revisions, and also that steps (4) and (5) may be done in this order, or the reverse.

Tips on constructing objectives: From the lists provided in the next section, *Writing Objectives: Action Verbs by Domain and Level of Learning* you could select several action verbs that are close to each other, and then choose the one which best describes the performance or experience as a whole. The remaining verbs may describe the component tasks for your lesson plan. The process of choosing is sometimes helped by reciting the performance or experience aloud, substituting a different verb each time.

Steps in Writing an Objective

- ### Step 1: Intended learning

  Write a statement that conveys, in general terms, the intended learning resulting from the instruction. Don't try to write a perfect objective on the first try. A general statement will do.

- ### Step 2: What must the learner do to demonstrate learning?

  What will you accept as evidence that the learner has learned? Re-word or refine your general statement until it describes precisely what the learner will be doing when demonstrating learning.

- ### Step 3: Conditions

  Describe the important conditions or constraints under which the learner will be required to perform. Describe what the learner will have to do it with, and what, if anything, she or he will have to do without.

[1] The terms "general" and "specific" objectives, approximately equivalent to "objective" and "component tasks" are used in Norman E. Gronlund, *How to Write Instructional Objectives*, New York: Free Press, 1990.

- **Step 4: Criteria**
  Describe how you, the instructor, will know when the performance is good enough for you to be satisfied. What standard is expected?

Avoid:
- Cramming too much into any one objective
- Being too vague
- Being overly specific.

Tips on writing objectives: The following statements would not be regarded as objectives:
- I plan today to discuss some subtle themes in King Lear. (This is what the instructor plans to do.)
- Students will understand the law of supply and demand. ("Understand" is not observable.)
- Students will read the passage and discuss it in small groups. (This is an instructional approach, not an objective.)
- Students will get a feeling for the factors that affect the rate of chemical reactions. ("Get a feeling for" is undefined and not observable.)

Writing Objectives: Action Verbs by Domain and Level of Learning

A sample of action verbs, arranged alphabetically by levels and learning domains, is shown in the table below. This list is neither exhaustive nor precise, but it should provide a starting point for writing objectives in the ISW and afterwards throughout your teaching career. More information on domains and learning levels is found in the *Resources* section: *Taxonomy of Educational Objectives* and *Levels of Learning*.

Action Verbs by Domain and Level of Learning						
	Cognitive		**Psychomotor**		**Affective**	
Novice	cite define identify label list match	name outline select specify state translate	grasp hear identify locate move press	pull push set up select show sort	accept ask describe follow identify listen	name recognize respond to see select use
Advanced Beginner	apply convert discuss distinguish draw estimate	explain illustrate practice prepare summarize use	adjust assemble copy disconnect draw fasten	insert locate loosen remove rotate slide	account for accumulate assist choose commend comply	discuss follow perform practice share study
Competent	analyze compare contrast criticize diagram discriminate	explain modify plan predict schedule	activate calibrate construct duplicate fix load	manipulate measure operate perform trace	approve complete display form initiate invite	join justify propose verify work through

Action Verbs by Domain and Level of Learning						
	Cognitive		**Psychomotor**		**Affective**	
Expert	assess compose create critique design	formulate generate organize propose	adapt combine compose design devise	diagnose generate organize repair	adapt defend design influence integrate	mediate organize revise solve

3. Pre-Assessment

Determining what learners already know is an important beginning step as it helps the instructor decide where and how to start with a particular group of learners. Some learners come with considerable prior knowledge, experience and expertise. Some come with very little. Some may know about one aspect of a course or topic but not about another.

The pre-assessment helps to ensure the lesson starts at the right place for the learners. If the learners already know the material, they may become bored. If the material is too far ahead of where the learners are, they are likely to become confused, frustrated or unable to follow. Even with formal pre-assessments or in courses with clear pre-requisites, the instructor may discover learners "all over the map" in each topic or unit of instruction.

Pre-assessments can:

- Reveal learners' interests
- Identify learners who can be resources within the class
- Allow learners to express their needs for review or clarification
- Focus attention and signal the purpose of the lesson
- Help the instructor adjust the lesson for depth and pace to better fit a particular group of learners
- Enable the instructor to respond to individual strengths and weaknesses.

Although pre-assessment sometimes leads to "surprises," in terms of the learners' levels of readiness for the lesson, it is better to be surprised at the beginning of a lesson, when adjustments can still be made.

The pre-assessment may be an informal question and answer process, or a more formal test or task given to all students.

> **Tip on pre-assessment:** The best pre-assessments include open-ended question(s), that is, one(s) that cannot be answered with a simple "yes" or "no." For example, "What kinds of boats have you sailed in?" is a more useful pre-assessment question than "Have you sailed before?" which may lead to a simple yes or no response. Open-ended questions allow learners to add their experiences to the lesson and improve participation and learner engagement.

Other pre-assessment strategies include:

- A trial attempt prior to instruction for psychomotor skills, or concept-specific terms, details, and formulae (E.g., "Demonstrate the correct grip on a golf club." "Write the formula for sulphuric acid.")

- A gathering of the collective knowledge of the group around the lesson topic (E.g., "What do you know already about the political situation in Kosovo?" "What does anyone here remember about Newton's first law?" "What comes to mind when you hear the word arthritis?")

- Brainstorming (E.g., "What are the things you'd need to consider in setting up a daycare?" "What problems might a small business run into if it doesn't manage its accounting well?")

4. Participatory Learning

There are two kinds of participation: interaction between the instructor and the learners, and interaction among learners themselves, with the instructor facilitating. Learning is an active process and only by actively engaging with the material or the task can students experience deep learning, learning that lasts, contrasted with surface learning that may last only long enough to do well on the test.

Whenever possible, instructors are encouraged to have the learners actively involved in achieving the objectives of the lesson(s). Learners understand and remember concepts through connecting with, testing, exploring, and mentally manipulating ideas. This is often accomplished through discussion, debate and dialogue. Physical and problem-solving skills improve with repeated practice and feedback. Changes in individual beliefs and attitudes are difficult to measure as they are modified gradually as the learners are exposed to various viewpoints and experiences. Over time, this exposure leads to integration and synthesis of new information and perspectives.

Participation is a particularly difficult concept to define precisely. Not only does it depend on the level of intellectual development of the learners, and on personality factors, but is also variable with learning cultures. In some settings, for example, instruction tends to be carried out in a formal atmosphere, where an instructor makes an uninterrupted presentation, followed by questions. There are also constraints imposed by the physical classroom setting. Fixed seating may make small group discussion more difficult.

A number of educational theorists propose that each learner personally constructs his or her knowing. This suggests that the most effective learning occurs when, through personal interaction with the content or materials, each person actively creates his or her own set of knowledge, skills and values.

This may create a problem for the instructor whose subject and approach has traditionally depended on the transmission of information through lecture. Because listening can be a more passive activity and because many people are not primarily auditory learners, learning-by-listening is not likely to be an effective strategy for some learners. If you have a great deal of content to deliver, it is helpful to think about how you can do that in ways that maintain and enhance learners' active engagement. When you find those ways, students generally learn more successfully.

In the Instructional Skills Workshop, we ask instructors to encourage active engagement in their lessons in some way. Active learning involves students in doing things and thinking about the things they are doing.

Some ways to encourage active participation include:

- Small group discussion around a specific question or problem arising from the course material.
- Pauses in lectures for individual student reflection through writing or discussion, question development or short application tasks like solving an equation or a small problem.
- Critical discussion of the main point of the lesson by the learners – perhaps through a think-pair-share strategy (see *Resources* section – *Cooperative Learning* for description).
- Prediction or forecasting (usually at the beginning of a concept or unit)
- Individual or group tasks/presentations
- Students working on a problem, then evaluating each other's work
- Role plays, case studies, scenarios, simulations
- Posing a "thought" question, one that is not answered until later in the activity.

The strategy for participatory learning also depends on the sophistication of the learners, how well they have "learned to learn." If the learners are skilled in the process of learning, an instructor might be able to plunge them into a discovery learning situation with little guidance. On the other hand, if they lack confidence and/or competence as learners, a more structured approach may work better. The decision on how to facilitate participatory learning will depend on the knowledge, skills and attitudes that the learners bring to the instructional session. A mixed group of adult learners can include people who already possess the information or abilities you intend to teach to the whole group. In this case, the instructor can share the teaching load with the learners.

Tip on participatory learning: For further information on strategies for increasing participation, please see the *Resources* section: *Instructional Techniques*.

5. Post-Assessment

The post-assessment answers two questions:

- What did the learners learn?
- Were the desired objectives accomplished?

The post-assessment matches the level and kind of desired learning established at the beginning of the lesson. For example, if the lesson is an introduction to terminology, an appropriate post-assessment could be a matching or sentence completion exercise. If the lesson focused on doing something, the post-assessment is generally directly related to a performance, often a partial performance or a simulated one. Expressive outcomes are assessed mainly by reflection on the experience, often by the learners themselves. This could be writing a paragraph on "the relevance of the lesson for me" or by a discussion of the possibilities or limitations of a novel approach or point of view.

Although the post-assessment for a mini-lesson needs to be short, the strategies listed below may provide some ideas for you to adapt.

Basic knowledge and thinking (knowledge recall and comprehension) can be assessed by:

- multiple choice
- true/false
- matching
- completion
- short written answer
- short verbal answer (if testing through oral or interview format).

Higher level thinking (application, analysis, evaluation and creation) can be assessed by:

- problem solving tasks
- essays, critiques
- creating a novel theory or interpretation
- analysis of a scenario.

Skill (doing) can be assessed by:

- checklists
- rating scales
- products or examples of production using the skill(s)
- performance or demonstration.

Attitude (values) can be assessed by:

- attitude scales
- performance
- essays
- journals and other personal reflection pieces
- artefacts.

6. Summary/Closure

Just as the bridge-in introduces and begins a lesson, the summary/closure concludes and wraps up the learning experience, creating a sense of closure and completion. It also helps the learners reflect on and integrate the learning. The instructor's summary often sets up the learning for future lessons. For example, "Now that we have done this, later we will try …"

The summary may include:

- content review (either instructor or learners briefly recap main points)
- group process (time for learners to discuss their group process)
- feedback (use a feedback technique like the "one-minute paper" or the "muddiest-point" see *Resources* section – *Non-Formal Assessment of Learning*)
- recognition (acknowledgement of effort and achievement)
- application (how to use this later; create a personal action plan)
- individual voice (quick roundtable for each person to have a "last word").

For some learners, revisiting the original goals of a session is an important opportunity for personal reflection. For others, it is an opportunity to celebrate achievements, and for yet others, it completes the learning contract by answering the question, "Did we do what we said we'd do?"

If the session began with the learners identifying their own goals and objectives, it should end by revisiting these in some way. The instructor might ask them to reflect back and comment briefly on the extent to which they met their goals. Revisiting the learners' goals and expectations at the end of the session is part of "closing the circle" for the learners.

Whatever strategy is used, this last step – particularly in a mini-lesson – is usually very brief.
A *Mini-Lesson Plan Checklist* is provided on the next page to assist you to ensure your lesson plan is complete. You can use the checklist to review your plan before giving your mini-lesson and again when you are reflecting on the effectiveness of your lesson. Sample lesson plan formats are found in the section *Lesson Plan Formats* provided after the checklist.

Mini-Lesson Plan Checklist

Lesson Basics	Checklist Item	Done In Advance	Done On Reflection
(B) Bridge-In	Broadly interesting?	____	____
	Relevance of lesson?	____	____
(O) Objective(s) or Outcome(s)	Stated in terms of learners' actions?	____	____
(if performance objective)	Conditions?	____	____
	Performance specified?	____	____
	Criteria for success?	____	____
(if expressive outcome)	Context explained?	____	____
	Learning event specified?	____	____
	Reflective activity?	____	____
(P) Pre-Assessment	Open question?	____	____
	Consistent with objective or outcome?	____	____
	Consistent with post-assessment?	____	____
(P) Participatory Learning	Learner activities anticipated?	____	____
	Time flexible enough?	____	____
	Sequencing considered?	____	____
	Resources listed?	____	____
(P) Post-Assessment	Consistent with objective or outcome?	____	____
	Plan for review of answers?	____	____
(S) Summary/Closure	Session goal or objective revisited?	____	____
	Link to future application or to future learning?	____	____
Other items important to you			
_____		_____	_____
_____		_____	_____
_____		_____	_____
_____		_____	_____
_____		_____	_____
_____		_____	_____
_____		_____	_____

Lesson Plan Formats

Sample Lesson Plan A (Guide for Completion)

Course: ***ABC101*** Title: ***Sample lesson***		Date: ***this time*** Instructor: ***Alice Macpherson***	
Bridge-in: ***Explains the value of the lesson to the learner*** ***Provides motivation***			
Learning Objective: ***What the learner must do*** ***The conditions under which it must be done*** ***How well it must be done***			
Pre-assessment: ***Identifies any prior knowledge and whether or not the learner can already accomplish the objective***		Materials**:** ***The equipment necessary to conduct the lesson***	
Participatory Learning:			
Time	Instructor Activities	Learner Activities	Lesson Resource
Number of Minutes	***What the instructor does to facilitate learning***	***What the learner does to actively learn***	***Materials or equipment used***
Post-assessment: ***To determine if the learner can demonstrate the skill described in the learning objective***			
Summary/Closure: ***Process and evaluate the lesson information and interaction***			

Lesson Plan Forms

Lesson Plan A

Course: Title:		Date:	
Bridge-in:			
Learning Objective:			
Pre-assessment:		Materials**:**	
Participatory Learning:			
Time	Instructor Activities	Learner Activities	Lesson Resource
Post-assessment:			
Summary/Closure:			

Sample Lesson Plan B

The following is a sample lesson plan for a ten minute lesson.

<table>
<tr><td colspan="2">Lesson Title: Open a bottle of sparkling wine</td><td>Resources</td><td>Time (minutes)</td></tr>
<tr><td colspan="2">Bridge-in (motivation)

• Have you ever opened a bottle of sparkling wine and lost half of it in the process?
• You too can look professional and impress your friends with your skill and finesse!</td><td></td><td>.5</td></tr>
<tr><td colspan="2">Pre-Assessment

• Does anyone already know how to open sparkling wine and appear sophisticated?</td><td></td><td>1</td></tr>
<tr><td colspan="2">Learning Objective

• You will be able to describe the seven-step method of opening sparkling wine.</td><td>Sparkling drink
Overhead #1</td><td>1</td></tr>
<tr><td>Instructor Activities</td><td>Learner Activities</td><td></td><td></td></tr>
<tr><td>1. Describe the seven steps

2. Tips on serving sparkling wine

3. In dyads or triads, discuss and demonstrate the seven step process on a bottle of sparkling fruit juice (simulated wine)

4. Review steps

Post-assessment

• Check for learning</td><td>Ask questions

Ask questions for clarification

Describe steps in order</td><td>Overhead #2

Overhead #3

2 Sparkling drinks
2 Towels
2 Cork screws

Overhead #1</td><td>2

1

2.5

1.5</td></tr>
<tr><td colspan="3">Summary/Closure

Reinforce that, after practice at home, at the next special occasion they should be able to open a bottle of sparkling wine with finesse.</td><td>.5</td></tr>
</table>

Lesson Plan B

Lesson Title:		Resources	Time (minutes)
Bridge-in (motivation)			
Pre-Assessment			
Learning Objective			
Instructor Activities	Learner Activities		
Summary/Closure			

Sample Lesson Plan C

The following is a sample lesson plan for a 50 minute lesson.

Psychology 101 Lesson Plans

Objectives: Students will correctly differentiate between neurons and glial cells and be able to describe the types and functions of glia. In addition, the students will be able to describe the structure, function and role of the blood-brain barrier.

Time _____

Session 4

Time	Instructor Activities	Learning Activities	Resources
2 min. 5 min. 1 min. 2 min. 15 min. 15 min. 5 min. 5 min.	Explain objective Review parts of neuron from last lecture Distribute handouts Explain importance of knowing about different types of brain cells and blood-brain barrier Explain the differences between neurons and glia using overheads and diagrams in handouts Discuss roles of different types of glia in the nervous system Lecture - blood-brain barrier. Use overheads to explain the function and structure Use think-pair-share to review the lecture Assign homework - read pages 39-54	Discuss differences between neurons and glia. Diagram types of glia Discuss roles of glial types within the nervous system Using a diagram, illustrate the structure of the blood-brain barrier and describe its function	Handout #4 - Glial Functions Text: Biological Psychology pp. 24-38. Brooks/Cole Overheads # 17, 18, 19 of neurons and glial cells Overheads # 20, 21 of blood-brain barrier

Comments:

Don't forget to bring the article I mentioned about glial cells and multiple sclerosis.

Reprinted from Provincial Instructor Diploma Program Course 102A

Lesson Plan C

Lesson Title			
Objectives:			**Time** _____ **Session** _____
Time	**Instructor Activities**	**Learning Activities**	**Resources**
Comments:			

Sample Lesson Plan D

Using the CARD Method to Plan Learning Activities Based Upon Expressive Outcomes

by David Tickner, Vancouver Community College

Lessons or workshops involving Expressive Outcomes contain four components. These components are **C**ontext, **A**ctivity, **R**eflection, and **D**ocumentation. In short, we can use the acronym CARD.

A presupposition of working with the CARD model is that we need to prepare for reflection as intentionally as we prepare for action.

1. **Context** is related to focusing attention and stating intention. When developing a Context, consider and include the following points, as appropriate:

   What: What is the Expressive Outcome related to this session? What background or introductory information is required? What do learners need to be reminded of? Prepare for? What parameters? Group norms or agreements? Frames of reference?

   Why: Why do we need to do or know this? What aspects of learner motivation need to be considered?

   How: How will the session unfold? What are the directions, guidelines, processes for the session?

   Environment: How does the physical space need to be arranged? How will the appropriate atmosphere / climate for learning be created and sustained?

2. The **Activity** focuses on *how* learning occurs rather than what will be learned. What is the activity which will prompt or evoke or facilitate the required reflection related to learning?

3. When developing a **Reflective activity**, consider a sequence of at least four questions used to start and facilitate the reflective process; e.g.,

   - What happened?
   - What did you think? How did it feel?
   - What did you learn?
   - What will you now do?

4. **Documentation**: What, if anything, will the learners take away from the session?

Summary
In short, a lesson or workshop encompassing an Expressive Outcome is comprised of these components:

- A short paragraph outlining the Context.
- A short statement (one sentence) describing the Activity.
- A list of Reflective questions; or, an outline of the reflective process.
- A description of any Documentation or artefacts.

Such information communicates the general anticipated details and expectations of the teaching / learning process to the instructor, to the students, and to any other reader in the same way that a Performance Objective communicates specific prescriptive details and expectations.

Sample Lesson Plan D

Working with an Expressive Outcome Using the CARD Method (*Context/Act/Reflect/Document*)

by David Tickner, Vancouver Community College

"Reflective Practice in the Learning Community"

EXPRESSIVE OUTCOME: Describe how reflective practice helps us respond to changes in the learning community.

CONTEXT: Instructor presentation *(10–15 minutes)*
Highlight personal and participant examples of several contemporary issues and concerns that seem to be in the forefront of current teaching and learning activities: e.g., outcomes and authentic assessment, brain-based learning, online learning, diversity and inclusion, construction of knowledge, troubled and troublesome learners, collaborative learning, PLA, and so on.

Note the paradox: in educational environments increasingly characterized by a focus on learning and on the diversity and individuality of learners, the educational organization is increasingly facing the need to response to learners and learning from an integrated perspective; i.e., in order to respond to individual learners, the educational organization must respond as an integrated *learning community*. For example: to meet the increasing challenges for "just in time" online learning, the educational organization must respond in increasingly integrated ways – registrars, instructors, course developers, counsellors, instructional technology service providers, administrators, and so on must have their act together.

And so, what are implications for teaching and for teachers? Can concepts of reflective practice provide a way to respond effectively in the midst of changing educational environments?

REFLECTIVE ACTIVITY: Small group discussion and whole group plenary *(40 minutes)*
First in small groups, and then in plenary session, discuss models of learning, reflective practices, and implications for their work as teachers in "learning communities".

Small group task (20 minutes):
- Clarify terms used in learning models/Provide examples illustrating application of learning models
- Do these models adequately reflect shifts they have seen in learners and the learning process?
- What changes are implied for teachers and teaching?

REFLECTIVE PROCESS: Sequence of "starter" questions/anticipated discussion flow
Plenary debriefing (20 minutes):
- What are one or two highlights that each small group would report from their discussion?
- On what topics or issues did people get most interested, energetic, stimulated?
- Why? What was the issue? Did other groups experience this? Any comments?
- How would you begin to talk about teachers and teaching in the context of a "learning community?" What characteristics/"essential abilities" of effective teachers are highlighted; e.g., abilities to reflect?
- What are some implications for you personally? What do you see yourself paying more attention to in your work with students?

DOCUMENTATION: *(2 minutes)*
Each participant will summarize the insights and implications gained during the presentation and discussion.

PART C:

Reflections on the Workshop

Introduction to Reflective Practice

Donald Schön (1983 and 1987)[2], Stephen Brookfield (1995)[3], and Parker J. Palmer (1993)[4] would all maintain that effective instructors have a responsibility to reflect on their practice regularly in order to improve, renew, and grow – both personally and professionally.

The Instructional Skills Workshop is a "laboratory" approach to developing instructional skills because it provides an environment in which participants can experiment with their teaching. This experimentation might address issues related to lesson design, instructional techniques, media, and so on. Rather than replicating previous successes, participants are encouraged to use this opportunity to take "safe risks" that will help them to enhance their practice.

During the workshop you will be engaged in a variety of roles. The workshop requires considerable time for individual preparation as well as participation in all mini-lesson cycles. Thus, it is often challenging to find the time to pause and reflect on your learning. In order to gain the most from this experience, you may use the following material which provides 1) a space for organizing workshop materials and 2) worksheets to guide your thinking. Your facilitators may suggest that you work with parts of this material. Feel free to enhance your learning during the workshop and in the months to come by reviewing and expanding on your reflections.

Many instructors report that the ISW launches them on an ongoing journey of reflective practice. Participants often arrange informally to visit one another's classes and to continue exchanging feedback. In the *Resources* section, you will find a variety of suggestions for continuing in this process of self assessment and reflection.

One of the reasons to reflect regularly is to model what we hope our students will also do.
Ideally, then, all participants in the learning process – learners and instructors – will become reflective practitioners.

[2] Schön, Donald A. (1983). *The Reflective Practitioner*. New York: Basic Books.
and
Schön, Donald A. (1987). *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions.* San Francisco: Jossey-Bass.
[3] Brookfield, Stephen D. (1995). *Becoming a Critically Reflective Teacher.* San Francisco: Jossey-Bass.
[4] Palmer, Parker J. (1993). "Good Talk About Good Teaching: Improving Teaching Through Conversation." *Change 25 (6)*, pp. 8–13.

The Mini-Lesson Record

Simply keeping a record of the mini-lessons you experience will help you consolidate your learning as a participant in the workshop.

Cycle One

	Instructor	Topic	Notable
1.			
2.			
3.			
4.			
5.			
6.			

Cycle Two

	Instructor	Topic	Notable
1.			
2.			
3.			
4.			
5.			
6.			

Cycle Three

	Instructor	Topic	Notable
1.			
2.			
3.			
4.			
5.			
6.			

Starting the Reflective Process: Looking Forward

In order to get the most from this workshop, you will be encouraged to set learning goals. At the first session, your goals may be quite specific (e.g., "I want to learn how to write learning objectives in the affective domain") or they might be rather general (e.g., "I want to pick up ideas about making my teaching more interesting"). As the workshop continues, you will be asked to discuss with the other participants your specific goals so that all participants can help you to meet them.

Goal setting can be done informally while thinking or speaking with others. However, many individuals find it very useful to write down specific goals.

Goals at the Beginning of the Workshop

Briefly describe your overall goal(s), that is, what you hope to learn by participating in this workshop:

List any specific goals you may have in mind:

Continuing the Reflective Process: Learning From Your Lesson

Lesson #: _____ Topic: _____

Objective: _____

Your Experience

Overall, did the lesson go according to plan? Why and/or why not?

What would you do differently next time?

The Learner's Experience

Based upon what the learners said, what would you say was the most important feedback about the strengths of the lesson?

Video Experience

What did you learn from the video? Consider pacing, enthusiasm, clarity, engagement, questions, mannerisms, explanations, learner support, learner challenge, learner interest, and so on.

Overall

What was the biggest surprise?

What are the implications for your next mini-lesson?

What are the implications for your regular teaching?

Synthesizing the Learning: Reflecting on the Basics

Now that you have experienced many mini-lessons, you should have a clearer and deeper understanding of the basics. Take some time to think about how the basics (BOPPPS) might be incorporated into your regular instructional practice.

(B) Bridge-In:

(O) Objective or Outcome:

(P) Pre-Assessment:

(P) Participatory Learning:

(P) Post-Assessment:

(S) Summary/Closure:

Which of the basics, if any, is making the most sense to you? Why?

Which of the basics, if any, continues to challenge you? Why?

What were some of the recurring topics/themes in the mini-lesson feedback?

Synthesizing the Learning: Reflecting on the Group Process

This workshop depends on effective group process. Most instructors must facilitate group process with a number of learners. Thus, you might find it useful to reflect on the group process you experienced and its implications for your own instructional practice.

1. What happened that facilitated the effective functioning of the group?

2. What interfered with the group's work?

3. What have you learned about yourself as a group member? As a group leader?

4. Given your group's experience, what might you wish to incorporate into your own instructional practice and/or facilitation of groups?

Synthesizing the Learning: Reflecting on Your Feedback from the Three Mini-Lessons

Re-read the feedback sheets from your three mini-lessons. Then take some time to think through what you want to do as a result of receiving this information.

1. What was the most treasured piece of feedback about your strength as an instructor that you received? Why?

2. How might you build on this or other strengths in your regular teaching?

3. What feedback still feels rather challenging or puzzling to you?

4. Can you think of comparable situations in your regular teaching that might provide insight into this issue?

Synthesizing the Learning: A Personal Plan for Self-Development at the End of the ISW

Affirmations of My Strengths as an Instructor

What I Believe I Do Well:

Development Areas as an Instructor

What I Choose to Work On:	How I Will Develop These Areas:

PART D:

Resources

Effective Teaching and Learning

The body of research on effective teaching and learning in the classroom is extensive. At one time, much of the focus on teaching effectiveness was on helping teachers organize the content of their lessons efficiently. Learners were thought to be passive receptacles, waiting to be "filled up" with the knowledge. While this perspective still has some limited application, it is now generally recognized that teaching is a much more complex set of practices that is highly interactive with learning. The two are really inseparable, and so we use the expression "teaching and learning" to emphasize the intertwined nature of the process.

Over the years, many learners have been asked for their perceptions about the qualities of effective teachers they remember. Four major classifications of responses have been identified:

Content expertise – having knowledge of the subject area, clear goals and objectives, effective selection and organization of course content, enthusiasm about the course

Communication skills – providing flexibility and willingness to experiment with different techniques, encouraging independent thinking, using a variety of media

Fair examinations and grading practices – avoiding harsh commentary and giving students opportunities to practice before grading performance, marking and grading within a reasonable time

Other motivational factors – showing respect for students as individual persons, providing encouragement, building lessons from the students' likely realm of experiences, encouraging diversity in the classroom.

These four areas are expanded in a brief summary of Chickering and Gamson's (1987) seven principles of good practice in the teaching/learning process described later in this section.

There is no one recipe for effective teaching. The material in this *Resources* section provides a range of alternatives. However you will need to consider what will work best for you and a particular group of students in a given situation.

Effective teaching blends many elements: content knowledge and "people" knowledge; course planning and management; communication skills, creativity, and problem-solving skills. Effective teaching balances structure (through class routines, lesson plans, learning goals, etc.) and openness (through variety, choices, inclusion of diverse people and points of view, and seizing the "teachable" moment). Good teaching rests on knowledge, skill and wisdom acquired through experience but great teaching goes beyond technique. Ultimately, effective teaching rests on care and connection.

Good teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subjects, and their students so students can learn to weave a world for themselves. The methods used by these weavers vary widely: lectures, Socratic dialogues, laboratory experiments, collaborative problem solving, creative chaos. The connections made by good teachers are held not in their methods but in their hearts – meaning heart in the ancient sense, as the place where the "intellect and emotion and spirit and will converge in the human self."[5]

[5] Parker Palmer. (1998). *The courage to teach: Exploring the inner landscape of a teacher's life*. San Francisco: Jossey-Bass. p. 11.

Seven Principles of Good Practice in Undergraduate Education[6]

1. Good Practice Encourages Student-Faculty Contact

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. Good Practice Encourages Cooperation Among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.

3. Good Practice Encourages Active Learning

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing pre-packaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it in their daily lives. They must make what they learn part of themselves.

4. Good Practice Gives Prompt Feedback

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. Good Practice Emphasizes Time on Task

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrator's and other professional staff can establish the basis for high performance for all.

[6] Chickering, A. and Gamson, Z. (1987). Seven Principles for Good Practice in Undergraduate Education. *AAHE Bulletin, 39(7),* 3-7. See the Website: www.tltgroup.org/programs/seven.html for Chickering, A. and Ehrmann, S. (1996). "Implementing the Seven Principles: Technology as Lever."

6. Good Practice Communicates High Expectations

Expect more and you'll get it. High expectations are important for everyone – for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of themselves and make extra efforts.

7. Good Practice Respects Diverse Talents and Ways of Learning

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily.

Providing Opportunities for Learners to Identify Goals and Expectations

Although responsibility for setting objectives has rested traditionally with the instructor, providing opportunity for learners to reflect on and to identify their individual learning needs is useful.

Asking learners to think about their desired outcomes:

- demonstrates respect and inclusion for adult learners
- encourages participation and builds commitment to learning
- stimulates learner self-awareness
- provides critical information to the instructor about the learner.

For the adult educator or trainer who provides courses and workshops, surfacing individual participant's goals, needs, and expectations for the session is often part of the bridge-in as it helps establish interest and engagement.

There are a variety of ways to do this. Some include:

- reflecting and sharing individual expectations and goals for the session. For example, at the top of a flip chart page, write: "By the end of this session, I hope that …"

- goal matching and ranking activity: after the instructor publishes or posts the session goals, ask the participants to identify which of the instructor's objectives match their own and which are most important to them

- asking participants to write their own goals or learning objectives in their notes

- asking participants to discuss what they need/want to learn with a partner or in small groups and to report back highlights to the whole group.

Taxonomy of Educational Objectives[7] [8] [9] [10]

Although there are numerous ways to categorize learning, the taxonomy developed by Benjamin Bloom and colleagues (later revised by David Krathwohl and colleagues) for cognitive knowledge or domain is widely used by educators. This cognitive taxonomy can help instructors with:

- setting learning objectives
- selecting teaching strategies
- formulating questions to use in lessons
- planning assessment and test construction.

The categories in the revised cognitive taxonomy (Krathwohl, 2002, p. 215, Table 3) include:

- *remember (knowledge recall)* – retrieving relevant knowledge from long-term memory
- *understand (comprehension)* – interpreting the meaning of information; being able to "translate" knowledge into one's own words; linking new information to what you already know
- *apply* – using what you know to do required tasks
- *analyse* – taking things apart; dissecting; asking "why?"; seeing relationships and how things work
- *evaluate* – appraising, judging and critiquing the outcomes of any of the other levels
- *create (synthesis)* – putting things together; building on what you know to create something new; seeing new relationships or making new connections.

In courses with large amounts of content, a common risk is that students memorize information without genuine comprehension. This surface learning often disappears soon after the test has been written. Application, analysis, evaluation, and creation are often referred to as "higher level thinking" and are valued skills for problem solving.

The work on taxonomy also extends to other domains as noted in the chart below.

Classifying Learning Tasks According to Domain		
Cognitive	**Psychomotor**	**Affective**
Create (synthesis)	Perform skill automatically	Characterize
Evaluate (judge)	Combine several operations without guidance	Internalize
Analyse (take apart)	Perform single action without guidance	See value/worth
Apply	Comprehend required performance; describe required action	Respond/accept
Understand (comprehension)	Recognize items in order to perform an action	Receive information (awareness)
Remember		

[7] Bloom, Benjamin S. and Krathwohl, David R. (1956). *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain.* New York: McKay.

[8] Harrow, A. (1972). *A Taxonomy of the Psychomotor Domain. A Guide for Developing Behavioral Objectives.* New York: McKay.

[9] Krathwohl, David R., Bloom, Benjamin S., and Masia, Bertram B. (1964). *Taxonomy of Educational Objectives: Handbook II: Affective Domain.* New York: McKay.

[10] Krathwohl, David R. (2002). A Revision of Bloom's Taxonomy: An Overview. *Theory into Practice, 41(4)*, 212-218.

Levels of Learning

A generic example helps to illustrate the importance of levels of learning, in terms of their implications for the wording of objectives, selection of teaching and learning activities, and construction of evaluation measures. Each successive level includes knowledge, skills, and attitudes developed in the previous levels, and adds another degree of complexity. Consider any set of concepts or theory. Four levels of learning, all in the cognitive domain, and using mainly verbal-linguistic intelligence, in ascending order of complexity, would be:

1. **define the key terms**, i.e., provide concise, clear, and authoritative meanings

2. **apply the key terms** to a "real-life example" from the student's own experience

3. **analyze** a case study, problem statement, or scenario from outside the student's own personal experience in terms of this theory

4. **discuss** the merits and limitations of this theory in the wider context of approaches in the discipline

Defining key terms could be done in a lecture followed by, for example, a multiple choice quiz. Application, however, likely requires somewhat more discussion, and might be assessed by means of a short answer question on a test. Analysis of case studies often suggests work in small groups, and the preparation of a report by individuals or the group. Discussion, in the sense intended in this example, typically involves some kind of seminar teaching and learning format, and often involves a greater element of self-examination, whether it is assessed by means of a term paper or an in-class presentation.

As the level of learning advances, there is a greater degree of ambiguity in the expectations, and a potential for more diversity in responses. Evaluation, in common parlance, becomes more "subjective," i.e., based on the greater total experience of the evaluator in the field of study.

One way of looking at levels of learning is in terms of learner competency[11]. Four possible stages, with brief descriptions, are:

- **novice** – action takes place "on cue," instructors must provide a high level of support and structure, learning means following the rules, most tasks are common "components" of larger performances

- **advanced beginner** – both rules and experience guide behaviour, as learners become more independent, but still need a good deal of support and supervision. Learners begin to recognize some contexts as relevant, even though they may not be able to generalize them yet.

- **competent** – performance is guided by learner-generated plans, typically with review and prior approval from the instructor. Judgement assumes more importance, and a large number of rules must be, and are to a reasonable degree, coordinated in "real time" by the learner.

- **expert** – although terms, rules and relationships can be defined and applied by the learner, they are not consciously referred to in practice. Performance becomes fluid, and at higher levels, the expert is one who makes something highly complex look effortless.

A sample of action verbs, arranged by levels and learning domains, is provided at the end of the section *Lesson Basics in Detail: Learning Objectives and Expressive Outcomes*.

[11] Levels of competence were adapted from the BC Ministry of Advanced Education handbook for course ID 101 in the Provincial Instructor Diploma Program.

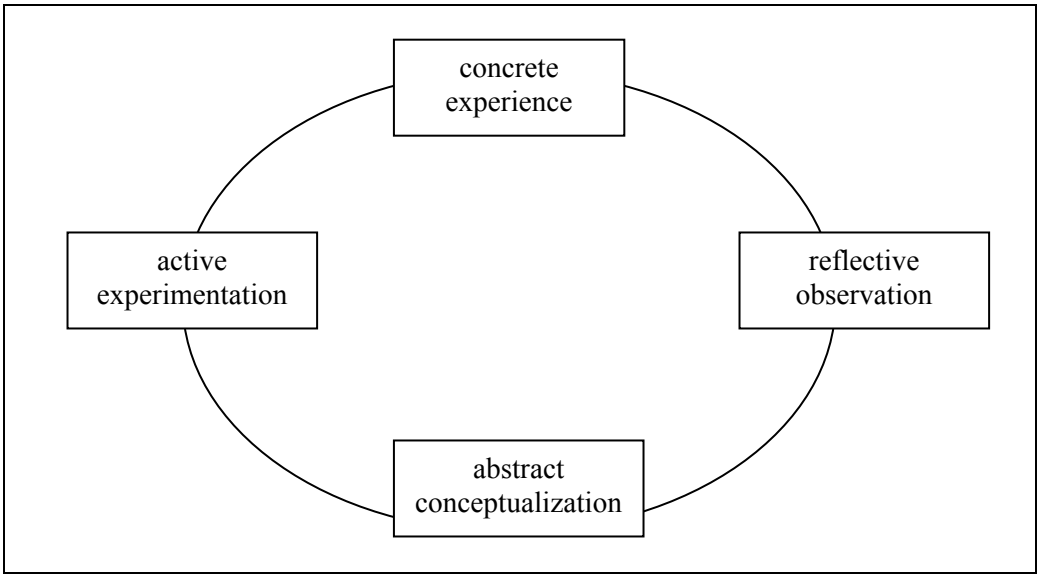
Learning and Teaching Styles[12]

It is important to consider individual learning preferences in order to more fully engage your students in the learning process. It is also useful to be aware of one's own learning preferences as we often tend to teach in the ways we prefer to learn. The use of Kolb's Learning Style Inventory[13] is built on his experiential learning theory, a framework that is compatible with ISW as a "laboratory" approach for teaching development

Kolb Learning Styles

In the early 1980s, David Kolb, a developmental psychologist in the business school at Case Western University, developed a learning style inventory as part of a research project. He identifies a complete learning cycle as including four specific ways of learning: concrete experience, reflective observation, abstract conceptualization, and active experimentation. People develop durable preferences for one way of learning. In any new learning, individuals generally enter the cycle at their point of preference and experience all four ways of learning before mastery is achieved.

Kolb's Specific Ways of Learning



Specific ways of learning are shown in the figure above as two pairs of opposites, which together form a cycle of learning. The vertical continuum describes how knowledge is assimilated or "taken in." At one pole is a preference for learning by concrete experience, by means of personal involvement and case-by-case judgments; at the other is learning by applying abstract concepts, in a rational-analytic manner. The horizontal continuum describes how knowledge is processed, i.e., how the person accommodates the

[12] Kolb, D. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.

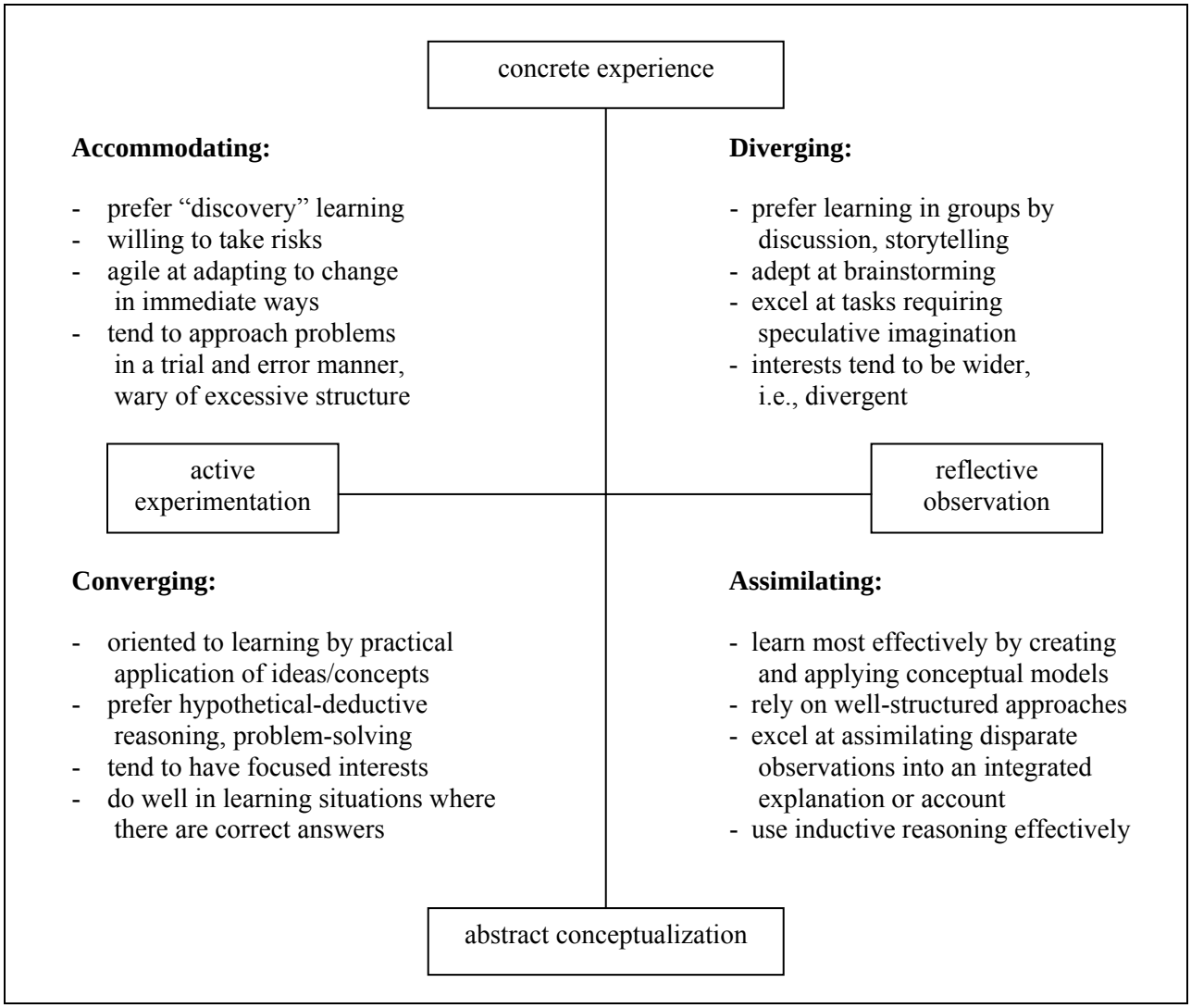
[13] Ordering information for the *Kolb Learning Style Inventory* is available on the Web at www.hayresourcesdirect.haygroup.com/Products/learning/lsius.htm. See www.learningfromexperience.com for additional work on Kolb's experiential learning cycle and Kolb's Learning Style Inventory.

acquisition of the new knowledge. At one pole is a preference for careful reflective observation of conditions as they are; at the other is learning through active experimentation by changing conditions, investigating possibilities and "doing."

All four specific ways of learning are necessary for the development of intellectual maturity, but none of them is sufficient. Relative preferences are measured, through the use of Kolb's Learning Style Inventory, on these two continua. Kolb's "ideal," in effect, is one whose preferences are well-balanced, and who would score near "zero" on both dimensions.

Combining scores from these continua leads to a preference of one of the four general styles of learning, shown graphically below.

Kolb's General Styles of Learning



Activities that support ways of learning preferences can be incorporated in many learning contexts. The partial list of classroom activities below illustrates the overlap between the learning processes.

Activities Supporting Different Aspects of the Learning Cycle (adapted from Svinicki & Dixon, 1987)[14]			
Concrete Experience	**Reflective Observation**	**Abstract Conceptualization**	**Active Experimentation**
laboratories observations primary text reading simulations/games filed work trigger films problem sets examples	logs journals discussions brainstorming thought questions rhetorical questions	lectures writing papers model building projects analogies	simulations case studies laboratories field work projects homework

Learning style is highly situational and both culturally and ethnically influenced. The point of examining learning style is not to "pigeonhole" people. On the contrary, it is to demonstrate diversity, the importance of variety in teaching techniques, and the potential to expand one's skills in the classroom by means of instructive instruments.

Kolb's learning styles can also be considered in relation to sequencing. For example, in Kolb's experiential learning model, the following cycle can be an interesting and useful sequence. For each of Kolb's categories listed below are examples of ISW mini-lesson basics.

Kolb	***ISW Lesson Basics***
Concrete Experience	Introduction, mood, bridge-in
Reflective Observation	Objective, pre-assessment, presentation, participation
Abstract Conceptualization	Presentation, participation
Active Experimentation	Presentation, participation, post-assessment
(back to) Concrete Experience	Summary, debriefing, closure, applications, next steps.

The Kolb experiential learning model also highlights the importance of maintaining a balance between Active Experimentation and Reflective Observation (between action and reflection) in adult learning environments.

[14] Svinicki, M.D. & Dixon, N.M. (1987). The Kolb Model Modified for Classroom Activities. *College Teaching, 35(4)*, 141-146.

Multiple Intelligences (MI)[15]

This concept was developed in the 1980s by a team of developmental psychologists at Harvard University led by Howard Gardner. MI began as a critique of the notion of Intelligence Quotient (IQ) and proposes that intelligence is more than cognitive knowledge. The original seven competencies that made up the classification are: verbal-linguistic, logical-mathematic, spatial, bodily-kinesthetic, musical, interpersonal and intrapersonal. Others such as naturalist were identified later. The following are brief descriptions of eight intelligences:

Verbal-linguistic – competencies include sensitivity to the order among words, capacity to follow the rules of grammar and syntax, sensitivity to sounds, rhythms, inflections of word sequences, the potential to convince, stimulate and convey information verbally or in writing.

Logical-mathematical – competencies include skill in ordering and re-ordering objects and processes, analysis and synthesis, using abstract symbols, numerical and computational operations, sensitivity to logical fallacies, and to the links among propositions.

Spatial – competencies include accurate perception of the visual world, abstract perception, orientation in a landscape, skill at mapping, design of objects and spaces, sense of direction.

Bodily-kinesthetic – competencies include hand-eye coordination, agility, muscular power and flexibility, balance, skill at rhythmic and graceful whole body movements.

Musical – competencies include sensitivity to pitch, rhythm, tone, reading scores, tuning instruments, capacity to follow the rules of composition.

Interpersonal – competencies include the ability to notice and differentiate among individuals, sensitivity to mood, temperament, motivations and intentions of others, non-verbal communication, capacity to motivate, persuade, lead and manage.

Intrapersonal – competencies include access to one's own "feeling life," sensitivity to one's own mood and motivations, affective resilience and the capacity to reflect on experience.

Naturalist intelligence – designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. The kind of pattern recognition valued in certain of the sciences may also draw upon naturalist intelligence.

The concept of multiple intelligences is complementary to the concept of learning domains. Its emphasis on "whole performance" compensates for the weaknesses of learning domains in classifying objectives, and developing "assessment menus" at an advanced level. The concept of learning domains is more applicable at a beginner and intermediate level.

[15] Gardner, Howard (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books. See the Website www.pz.harvard.edu/Default.htm for more information on the work of Howard Gardner and his colleagues.

Approximate Comparison: Learning Domains and Multiple Intelligences

Learning Domain	Intelligence	Sample Teaching / Assessment Techniques
Cognitive	verbal-linguistic logical-mathematical spatial	lectures drill, problem sets, essays
Psychomotor	bodily-kinesthetic musical	field trips demonstrations, supervised practice, performances, group projects
Affective	interpersonal, intrapersonal	discussion, role plays reflective exercises

Cooperative Learning

This is an approach to structuring learning in the classroom, which is based upon small group work, collaboration and cooperation. While it is not a new idea, it is one that has gained renewed recognition and interest in recent years through the work of Morton Deutsch, Spencer Kagan, David and Roger Johnson, Karl Smith, and Robert Slavin among others. To succeed in life beyond the classroom, the learner must learn cooperatively as well as independently and competitively. It is a question of balance. For too long, argue the advocates of Cooperative Learning, education has neglected to train people in the skills of working with people in a manner that mirrors the demands of cooperation and teamwork in the world of work.

The five essential components of Cooperative Learning according to Johnson, Johnson and Smith (1991) are presented below.[16]

1. Positive Interdependence

Students perceive that they need each other to complete the group's task. This is accomplished by establishing mutual goals, joint rewards, shared resources and assigned roles, such as summarizer, encourager of participation, note taker, and elaborator.

The success of one depends on the success of all:

- teamwork
- each group member's work is required
- each member has unique assignment within the group and contribution to make
- the group works toward a structured, mutual goal
- we sink or swim together.

2. Promotive Interaction

Learning is built upon direct activities, which promote each other's success and progress. Participants must support and sustain each other's work and provide encouragement.

Promotive interaction in the group leads to:

- explaining to each other how solutions are achieved and not just what the right answers are
- positive social exchange: helping, explaining, social support and accountability to group members
- verbal and nonverbal feedback about each other's performance
- group members both motivating and pressuring less productive members to contribute.

Cooperative learning groups may be applied to class situations in a variety of ways. Formal groups are generally short term and established for a project or a specific learning task. Informal groups may be used for the purpose of a class discussion or activities of a short duration. Informal groups may change membership frequently. "Base groups" are groups that are established for a longer period of time, have a more permanent membership and serve as a support group for learners to share information, and assist in ensuring each others' academic progress.

[16] Johnson, D., Johnson, R., and Smith, K. (1991). *Active Learning: Cooperation in the College Classroom*. Interaction Book Company, 7208 Cornelia Drive, Edina, MN 55435. See the Website www.clcrc.com/ for more information on the Cooperative Learning Centre at the University of Minnesota and on the work of David Johnson, Roger Johnson and their colleagues.

3. Individual Accountability

The purpose of Cooperative Learning is to make each member a stronger individual. Group members need to understand the quality and quantity of their contributions to group success. This may be accomplished through individual testing or randomly selecting one group member to provide an answer. Two messages often prevail: "Do your work. We are counting on you." and "How can we help you to do it even better?"

The instructor in Cooperative Learning:

- provides an assessment of each individual's contributions
- gives the group feedback
- makes sure that each member is responsible for the group's outcomes.

4. Interpersonal and Small Group Skills

A major strength of Cooperative Learning rests in its capacity to develop social skills. Through actual application students have to:

- communicate accurately
- trust each other
- accept and support one another
- resolve personal differences.

5. Group Processing

This aspect of the approach requires the members of the group to meet regularly and discuss how well they are achieving their goals. Processing is the means by which the group reflects on its progress towards its goals and devises methods for their achievement. They spend a few minutes discussing questions such as: What are we doing well as a group? What can we do next time that will help us learn even more?

The Distinctions Between Cooperative Learning and Traditional Group Work

The advocates of Cooperative Learning stress that it differs from traditional group work in several significant ways:

Cooperative Learning stresses positive interdependence:

- it values both individual and group accountability
- it uses heterogeneous groups (mixed abilities)
- there is group and not individual leadership
- improved social skills are an important objective of the approach
- group responsibility is stressed
- the group reflects on and analyzes its performance
- the instructor both observes and intervenes in the groups' activities.

Instructor's Role

The instructor plays an active and creative role in Cooperative Learning. Instructor responsibilities include:

- determining the size and composition of the groups
- arranging the physical logistics for group activities
- planning and developing interdependent assignments
- ensuring interdependence by assigning specific roles to group members
- clarifying and explaining learning objectives
- ensuring that learners understand what the group goal is and how dependent members are on each other
- structuring individual accountability by providing feedback on contributions
- explaining criteria for success
- evaluating the quantity and quality of learning
- ensuring that groups regularly "process" their progress towards goals.

Learners' Role

The learner in the Cooperative approach is responsible for:

- developing and using skills of cooperation, negotiation and compromise needed to work in a group
- mastering the subject or assignment that forms the goal
- assisting members of the group who have difficulty
- motivating less productive members to cooperate
- managing and directing group activities
- working towards a deeper and more accurate understanding of the material through group efforts.

Examples of Cooperative Learning Strategies

Think-Pair-Share

The instructor poses a question, preferably one demanding analysis, evaluation, or synthesis, and gives learners a few moments to think through an appropriate response. This time could also be spent writing. Students then turn to a partner and share their responses. Then student responses can be shared with a larger group, or with the entire class, in a follow-up discussion. This technique improves the calibre of discussion, and students can learn by reflection and verbalization. This is a versatile technique and does not require a large amount of time.

Numbered Heads Together

Members of learning teams, usually composed of four individuals, count off: 1, 2, 3, and 4. The instructor poses a question, students discuss the question, making certain that everyone knows the answer, and then the instructor calls a specific number and the designated team member responds as the group spokesperson. Students benefit from verbalization, and the peer coaching helps both the high and low achievers. All students are actively involved and all team members have a vested interest in understanding the appropriate response. This technique helps all learners contribute to the class discussion.

Roundtable

The students write in turn on a single pad of paper, stating their ideas aloud as they write. As they write, more and more information is added until various aspects of the topic are explored.

Simple Jigsaw

The instructor divides an assignment or topic into four parts, with each student volunteering to become an "expert" on one of the parts. "Experts" on a given topic work together to master their fourth of the material and discover the best way to help each other learn it. All "experts" reassemble in their home learning teams, where they then teach the other team members.

Instructional Techniques

The following is a description of a variety of instructional strategies including information about the roles of both the instructor and the learners. With each strategy used, the instructor will also need to determine the means for evaluating the learning that has occurred.

Brainstorming

Brainstorming is a technique to list as many answers to a question or solutions to a problem as possible. This technique is excellent for:

- actively involving the total group, because all responses are recorded
- solving difficult problems
- tapping knowledge and experience of the group
- using as a decision-making process where lack of time is a factor.

Instructor's Role

- introduce problem or issue facing the group
- appoint a recording secretary
- present ground rules (e.g., no put-downs, all ideas are accepted)
- start suggestions off (if necessary)
- avoid evaluating individual comments
- establish a time limit
- assist group to broaden scope of responses
- decide system for evaluation of suggested responses

Learners' Role

- think creatively
- present all ideas
- refrain from initially expressing opinion on other members' solutions
- assist in evaluating the solutions when the brainstorming session is over
- determine best use of information

Buzz Groups (Small Groups)

To do buzz groups, the class is divided into subgroups of 3–6 people to discuss an assigned topic or to solve a problem. A representative from each subgroup is selected to report findings to the class as a whole.

Instructor's Role

- assist in determining the problem
- divide the group into subgroups of 3–6 persons
- give instructions to the subgroups
- define task clearly
- inform group members of time limit (usually from 5–15 minutes)
- suggest each subgroup select its own leader and recorder
- request suggestions for solving problems, clarifying the issue, or answering the question
- "float" to provide assistance

- give a two-minute warning signal
- call "time" for the subgroups to reassemble
- request a report from each subgroup
- request additional comments from group members
- summarize the findings of group
- propose additional study or action

Learners' Role

- assist in determining issue or problem
- select a leader and recorder
- restate and define issue or problem
- give suggestions for discussing issue or for solving the problem
- listen intently to other group members' contributions
- build on the contributions of others
- determine how this information is to be used and put into action
- record summaries, and report contributions to the whole group as requested

Case Study

A case study is a description of a real-life situation presented to the class participants who then analyze the aspects of the problem and offer a solution. Case studies may be analyzed by individuals or small groups.

Instructor's Role

- prepare the case study, recording information factually, considering the following aspects where relevant:
  - people involved
  - historical background
  - relationships among people
  - sociological factors
  - economic factors
  - background of people
  - ethnic origins
  - tensions causing problem
- assist group members in analyzing and solving the problem
- summarize findings
- suggest uses of the information

Learners' Role

- assist in preparing case study if requested
- read and listen to case study analytically
- determine the real or underlining issues
- determine what each person in the case study has contributed to the problem
- determine why the problem exists
- determine what principles might assist in understanding the situation
- suggest a solution
- consider the best solution to the problem, giving an adequate reason for the choice

Debate

In a debate, speakers present opposing views on a subject, giving reasons for their beliefs, followed by discussion of the issue by the entire group. The speakers should:

- give adequate evidence for their viewpoints
- critique their opponents' arguments
- defend their own position
- summarize their own arguments.

Instructor's Role

- meet with debating speakers to define issues
- define problem to group members
- act as moderator
- open topic for discussion after debate
- suggest material for additional study

Learners' Role

- think about issue to be discussed
- participate in discussion
- participate in follow-up activities

Demonstration and Practice

Demonstration and practice is useful for learning a task involving development of a skill. Ultimately, the learner should perform the learning task to a satisfactory standard on his or her own. A demonstration and practice session:

- assists learners to master a motor skill
- assists with transforming theory to application
- should be followed by a period of questions and answers
- is best in smaller groups
- must have individual instruction during practice period
- allows a high group involvement.

Instructor's Role

- prepare proper equipment for demonstration
- must be confident of her or his own ability to perform the task
- introduce the theory and purpose
- describe the steps of the operation
- proceed slowly
- review procedures and answer questions
- assist in practice

Learners' Role

- understand purpose of demonstration
- listen actively and watch carefully
- ask questions
- suggest new ideas or alternative methods

- practice steps of procedure
- apply new knowledge

Field Trip

A field trip is a planned visit by a class that:

- incorporates community resources unavailable in the classroom
- provides visual education that offers first-hand experience with a place of interest or object, thus bringing realism to learning
- provides a change of pace
- is good for courses involved with community development
- should be preceded by a brief introduction in class and followed by a period of discussion.

Instructor's Role

- survey local community or region to locate points of significance to field of study
- obtain approval of owner or host
- detail arrangements in advance as to purpose, number of visitors, time of arrival, and duration
- arrange for transportation including means of covering costs
- provide class with information on the objectives of the field trip
- allow for discussion and questions after the field trip
- summarize the experience
- suggest further study

Learners' Role

Prior to Trip

- understand purpose and objective
- listen to instructions given by leader
- obtain information about place to be visited

On the Field Trip

- obtain information from the guide
- ask questions and request additional information as trip progresses
- relate what is seen and heard to the objectives

After the Trip

- analyze and interpret knowledge gained on the field trip, through group discussion

Group Discussion

In a group discussion, several people meet to cooperatively discuss a topic of mutual concern. The leader presents a topic and the participants discuss it.

Instructor's Role

- determine topic of interest
- assign reading material before discussion
- prepare stimulating questions
- make suggestions as to appropriate behaviour for the group discussion, such as not to digress from the topic
- keep discussion on track
- encourage all members to participate
- refrain from taking sides
- give summary
- suggest further study material

Learners' Role

- assist with determining discussion topic
- read appropriate materials before meeting
- define goals and procedures
- listen actively
- build on contributions of other group members
- contribute only relevant information and opinions

Lecture

A lecture is an oral presentation by a qualified person. The pattern of communication is primarily a one-way transmission of information from instructor to learners.

The lecture may be a suitable technique when:

- the basic instructional task is to give information
- the information is not readily available some other way
- there is established learner interest in the subject
- the material is intended for short-term retention
- introducing a subject or giving directions for learning tasks that will be developed through other techniques.

Instructor's Role

The lecture's effectiveness will be increased if:

- the material is meaningful
- verbal illustrations are similar to learners' experiences
- summaries are presented at beginning and end
- the lecture is accompanied by techniques and/or instructional devices that allow learners to participate

Learners' Role

- listen, think, take notes
- prepare questions for clarification during or after the lecture

Panel

In a panel, several people discuss an assigned topic with the group. The information is presented by these experts with an exchange between panel members, instructor and learners.

Instructor's Role

- select and invite experts
- meet with panel to discuss procedures
- inform class of advance reading and research required
- organize setting, introduce panel members and topic, moderate, summarize panel contributions, suggest follow-up activities

Learners' Role

- do advance reading and research as advised
- associate new information with previous experiences
- identify and integrate new ideas
- apply new information through follow-up activities

Practice and Drill

Practice and drill is the repetition of an operation. The learner can develop skills under the guidance of an instructor.

Instructor's Role

- provide the standards of performance
- demonstrate the correct response
- guide the learners' first tries verbally and physically
- provide for practice of the task
- provide for conditions of learning that are similar to those in the natural societal setting, making transfer of skills easier
- correct and provide results

Learners' Role

- ask questions if the pattern is unclear
- have a goal for each practice session
- practice the skill until competence is achieved

Role Play

Role play is a process where problems are dealt with through action. A problem is outlined, acted out, and then discussed. The essence of role playing is participation in a real problem and the desire for resolution and understanding that the participation brings about. Some learners are players, others are observers.

Role playing provides a vehicle for people to explore feelings and gain insight into their attitudes, values and perceptions.

Instructor's and Learners' Roles

Effective role playing involves the entire group. The instructor must know each of the eight phases but only facilitates the event. The participants are active in phases 2, 5, 6, 7 and 8.

Phase 1: The Warm-up. Introducing and identifying the problem and creating an atmosphere of acceptance where all feelings, views and behaviours can be explored. Examples from real life, television, books, etc. are provided to illustrate the situation.

- Identify or introduce a problem
- Make problem explicit
- Interpret problem story, explore issues
- Explain role playing as an instructional strategy

Phase 2: Selecting roles and players. Individuals involved with the problem or who have strong feelings about the situation may volunteer. You might suggest people who you think will be best able to present or typify the problem.

- Analyze roles
- Assist selection of role players

Phase 3: Sketching the setting. Keep it simple so participants will feel secure. Repeat the roles and then decide where to begin.

- Set line of action
- Restate roles of the players

Phase 4: Providing guidelines for observers for measuring effectiveness.

Phase 5: Beginning the role play. The action should be kept fairly short: until a proposed role is clear, a character has developed, the action has expressed a viewpoint or idea, or perhaps an impasse has been reached.

- Begin role play
- Maintain role play
- Break role play

Phase 6: Briefly reviewing the action. An exploration of the motivations and the consequences of actions is important.

- Review action of role play (events, positions, realism)
- Discuss major focus
- Develop next enactment

Phase 7: Re-enacting.

- Play revised roles, suggest next steps or behavioural alternatives
- Substitute participants if desired

Phase 8: Sharing experience and generalizing.

- Relate problem situation to real experience and current problems
- Explore general principles of behaviour identified through an analysis of the role play

Simulations and Games

The participants are involved with a setting, objects, or people that mirror reality. The participants learn from the consequences of their actions. Simulations and games are effective ways to:

- analyze an existing system
- evaluate a model for a new system
- provide a learning environment that represents a real-life situation and encourages learning.

Instructor's Role

The instructor sets his or her own criteria when analyzing the various components of a simulation or game and the merits of its parts to the desired learning objective. Other factors to consider are those relating to the curriculum, the learners' needs, and the management of the instructional setting. Questions an instructor keeps in mind are:

- What is the problem?
- What is the simulation designed to teach?
- What choices are available to the players?
- How long will the simulation or game take?
- What are the rules?
- What are the moves?
- What preparations will be necessary?
- Is this simulation or game playable by my students?

In using simulations or games, the instructor:

- explains the rules of the simulation or game so activities can be carried out
- gives illustrations of certain choices of action
- referees or controls participation
- encourages participants to reflect on their experiences.

Learners' Role

Students may learn about:

- competition and tension by striving against obstacles toward some goal (the obstacle could be forces of nature)
- the advantage of cooperation
- empathy through understanding of the roles
- concepts
- how behaviour affects the environment
- how the environment can be manipulated through action
- the consequences of lack of skill or of poor judgment
- the element of chance in the real world
- alternate problem-solving strategies, other individuals' responses, and the validity of the techniques in mirroring real life.

Instructional Techniques, Purpose and Examples

Instructional Technique	Main Purpose	Example for Use
Brainstorming	Come up with a new idea	Choose theme for conference
Buzz Groups (Small Groups)	Small groups discuss topic or solve a problem	Identify ways of increasing morale
Case Study	Present a real-life situation to analyze and offer a solution	Solve human relations problem in workplace
Debate	Present differing opinions and opposing views	Assign students to teams to present "sides" on a current affairs issue
Demonstration and Practice	Transmit a skill	Conduct science experiment
Field Trip	Incorporate community resources into learning	Visit telephone company
Group Discussion	Present a topic for discussion	Discuss themes of Romeo and Juliet
Lecture	Impart information	Present history lesson
Panel	Provide opportunity to learn from experts	Discuss challenges for women in management
Practice and Drill	Practice repetition of an operation	Practice keyboarding drills; Excel functions
Role Play	Learn through acting out; affect change in behaviour, thinking	Demonstrate good/bad telephone techniques
Simulations and Games	Learn from the consequences of their actions	A First-Aid situation

Instructional Resources

There are a variety of tools, techniques, and technologies that may be used to enhance learning. This section relates to what has historically been referred to as 'instructional media.' This topic is an ever expanding area driven by the need to bring more reality to teaching in response to the learning needs of students raised in the digital age. Any tool, technique, or technology used in a classroom, lab or shop should enhance the learning and not become an end in itself – none of them replace the teacher.

The following chart outlines some of the media and delivery options available with some considerations for their use. Mindful application of these resources can support quality learning experiences.

Type of Resource	Good for/Because	Disadvantages	Do's
Re-Writable Surface (chalkboard, whiteboard)	notes to accompany lecture; pictures, diagrams; unplanned spontaneous notes; quick, easy to use; can be erased and used over; can engage several volunteers	sometimes hard to see; dusty, turning away from class breaks connection	• use clean board • use 2 inch letters • organize location • focus, summarize, emphasize
Flipchart	notes, pictures, diagrams; can be prepared beforehand; posting group answers; simple, easy to use; reasonably portable; collecting brain-storms; save for next meeting	possible waste of paper; difficult to see in larger rooms	• use 2 inch letters • 8-10 points per page • test your colours for visibility
Realia (physical items)	any object or artefact that can meaningfully enhance learning (equipment, tools, samples of what will be found in the real world)	management and movement of objects needs to be considered	• be selective • allow time for all to see
Projectors: Overhead Projector (OHP)	can use masks and overlays; can face your audience; can trace diagrams or pictures	you are separate from the image – student attention is split; relies on electricity, bulbs, etc.	• move around to timeshare who you are visually blocking.
Document camera	wider range of display options than OHP; displays printed text and pictures, transparencies, 3-D objects; can be used for digitizing images for computer storage	requires monitor or data projector to display; as above.	• practice use before class • 'blank' to shift focus as needed
Data projector	allows several digital inputs* to be projected for viewing by class -computer, video (vhs, DVD & other), document camera, cable (TV or satellite)	need several screens if in large room; equipment is expensive, not easily portable; depends on electricity; equipment failure may occur	• as above • test equipment • prepare students – tell them what to look for

Type of Resource	Good for/Because	Disadvantages	Do's
Media: Handouts	notes, diagrams, pictures, exercises, instructions, timetables, outlines; permanent record for each student; easily read by everyone; no complicated technical hassles	no common focus of attention; sometimes contain too much or dense material (keep simple); too many may be distracting	• consider timing of distribution • explain what you want people to do with them before handing them out
Transparencies	can prepare material in advance; can use masks and overlays; can use colour; can trace diagrams or pictures; can use material that is illegal to digitize or distribute due to © restrictions.	tempting to add too much text; changing too rapidly	• organize transparencies • use for images more than text
Slides	pictures illustrating lecture, maps, diagrams, charts; high quality/impact	fixed order of slides, requires organizing / testing as projectors jam	• identify slides
Video	showing processes, procedures, influencing attitudes; using pre-made videos, but also can use video recordings to allow people to "see themselves as others see them" (when used to give feedback); can produce passable video tapes fairly easily with minimum training	may be expensive to make or rent; potential copyright problems	• Use PSNI (Purpose, Setup, Narrative, Integration)* • relate to course content • summarize at end • follow up with assignments

Ref.
Heinich, R., Molenda, M., Russell, J.D., & Smaldino; S.E.(various editions). *Instructional Media and Technologies for Learning*, Prentice-Hall, New Jersey.

* Wilson Boultbee, Glynis & King, Cheryl; *Narrative Skills Workshop*, Catalyst Consulting, Red Deer AB.

Non-Formal Assessment of Learning

While there are many methods of evaluating student progress, this section of the Handbook is about the non-formal assessment of student learning. Non-formal assessment involves the gathering of information or feedback throughout the course to determine how well things are going and if the course objectives are being achieved.

Some Non-Formal Methods of Assessing Learning

Take the time to review your outline, plans and notes for each class, how you felt each part went, and what changes you'd make next time. Also think about any weak areas from that class, and how you might change the next session to compensate or review those topics/skills. Keep in touch with your own feelings. If you're uncomfortable, nervous, bored, excited, or curious – those feelings are possibly reflecting and affecting the students. However, don't make assumptions – check your feelings with the class.

The following provides suggestions of ways to gather information about students' learning.

1. *Observation*. Notice your students' faces, postures, etc., to determine if they seem to have understood what you've presented. Do they seem interested, enthusiastic, bored? Listen to what kinds of questions they are asking, what they are saying in class, and outside of class.

2. *Discussions*. Especially for longer courses, take some time after a few sessions to talk with your class about how things are going, what they like and don't like. However, be careful not to spend more time "assessing" than teaching!

3. *Questionnaires*. Useful to get information about satisfaction of students, suggestions for improvement, input about topics/skills the students would like to learn in more depth. Try to keep questionnaires simple and short. Mid-way through the course may be a good time to do this.

4. *In-Class Activities*. Much of the normal activity in the class can give you a great deal of information as to the learning achievement of students. Performance in role plays, demonstrations, practice sessions, question periods, etc., are particularly useful means of "informal" assessment of learning.

5. *Checklists and Rating Scales*. Can be used for students to assess their own progress or can be handed in to give you an idea of their progress. They can also be used to get student "ratings" of the course, instruction, content, etc.

6. *Skill Practice and Demonstrations*. Having the students practice or demonstrate skills can be useful to help you find out if they have mastered the skill, and can also serve as a basis for the students to get needed feedback.

7. *Pencil and Paper Tests/Quizzes*. When not graded, tests or quizzes can be used as a non-formal method of assessment.

Strategies for selecting students to respond to questions

- Have students complete a file card that captures some main points about them, such as name, area of study, previous post-secondary experience, career goals, personal interest, part time job. On the other side of the file card, print first and last name. Use the cards to draw a name at random for answering questions. Then replace the card in the deck (not in order). This strategy is useful for learning student's names and to establish an expectation of participation.

Classroom Assessment Techniques (C.A.T.s)[17]

These techniques involve instructors and students in the continuous monitoring of learning. They provide faculty with feedback about their effectiveness, and give learners a measure of their progress. These tools assist instructors in using various simple feedback seeking techniques to discover what and how their students are learning.

Essentially, Classroom Assessment Techniques are quick strategies that help determine what students are learning, what things are going well for them, and what things are causing them difficulty. Here are some examples of C.A.T.s and other interactive assessment strategies.

One-Minute Paper (Half-sheet Response)

Stop the class a little early and pose one or two questions for reaction. Examples would be "What was the most important thing you learned in today's class?" and "What question remains unanswered?" or "What was the 'muddiest point' in today's session? What was most clear to you?" The students write their reactions on index cards (a response for each side), complete their cards and hand in to you before leaving class. About five minutes should be given for this exercise. You can then review their responses before the next session.

Other questions to consider for one-minute papers during the semester:

- Do you understand the course outline, objectives and grading system? What questions remain?
- Is this course meeting your expectations? What suggestions do you have for improvement?
- Is the course material presented clearly and in a logical manner? What could the instructor do to improve the presentation of material?
- Is the instructor providing you with specific feedback on your course work? What further feedback would help you in your course work?
- Are you always clear about what you are expected to learn in this course? How could this be improved?
- Do you consider the grading procedures to be fair? What changes can you suggest to improve the grading practice?

[17] K. Patricia Cross and Thomas A. Angelo. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers, second edition*, San Francisco: Jossey-Bass.

Focused Listing

- Select a topic that the class has just studied and ask students to make a list of the important words that best describe the topic. Have students review the list by themselves or with partners to make additions or deletions as needed.
- List the key knowledge or skills you have learned in this class, then list possible applications of this information.
- List 5–7 words or short phrases that will define the topic.

Directed Paraphrasing

- Ask students to summarize, in no more than three concise sentences, what they have learned about (*the topic*) in order that they could explain it to a interested friend.
- Ask students to paraphrase a specific reading or lecture for a specific audience and purpose, and within a specific page length or speaking time limit.
- After completing a directed paraphrasing task, have students pair up and discuss their response with a partner. Ask for volunteers to share with whole class.
- Have students observe a demonstration of a skill. Following the demonstration, have students read up on the technique in their text or handbook and then have them write these steps out in their own words. This is actually a form of practice. The next day, have the students perform the skill.

Stand Where You Stand

This strategy can encourage the safe discussion of controversial topics. Designate each side of the room with one of the following signs: agree, strongly agree, disagree, and strongly disagree. Select a controversial position, ethical or moral statement and have students go to the sides of the room that best represent their viewpoints. For example, "all cutting of old growth timber should be banned." Volunteers state why they chose particular positions, and then invite someone with an opposing view point to respond. The instructor begins by calling on people who have raised their hands to speak and gradually moves to calling out people by name. Students are encouraged to move to another position if they change their minds.

In debriefing the activity, consider having students write out (anonymously) responses to a reflective question, randomly shuffle the responses, and pass around the room. Go around the room and have students read what is on the paper they received.

Sample reflective questions:

- I was pleased that I…
- I wished that I…
- I was surprised that I…

Value Line

Select a controversial topic, draw a line on the floor (e.g., with masking tape marking the two ends and the midpoint). One end of the line is for those who strongly agree with a particular position, the other end is for those who strongly disagree. Have students stand at a point on the value line according to how strongly they agree or disagree with the statement. Ask students to share their views.

The following questions may provide other ideas for your planning of non-formal assessment of learning.

At the beginning of the course

- What are the learner expectations, interests, and uses for this course content?
- What previous knowledge and experience do learners have in the subject area?
- What fears and concerns might the learners have?

During the course

- Are the learners achieving the intended objectives or outcomes?
- Are learners enjoying the course? Satisfied with it?
- Is the group working well together or are there problems?
- Is the pace, organization, and presentation of material satisfactory?

At the end of the course

- Have the learning objectives or learning outcomes been achieved?
- Have individual goals been accomplished?
- How do the learners now feel about the course?
- Has their learning been relevant and useful for them?
- How well did the group work together?

Questions for yourself

- How effective were your skills and methods as an instructor?
- How well organized/prepared was the course?

Obtaining Feedback from Learners

It is important for students to have opportunities to provide feedback. Here are some general guidelines for obtaining feedback from learners.

- Try to provide "anonymous" means of obtaining feedback, as some participants may be reluctant to give honest information directly.
- Always explain *why* you want feedback or information, and report back to the group when you have decided how you will use it or describe why you will not be able to use the feedback.
- Ask for feedback in a way that encourages discussion and comment rather than a simple "yes" or "no."
- Ask for more general information first, then more specific – start with less threatening aspects, then move to more difficult ones.
- Also use what's going on in class as feedback to get much of the information you need about how well the course is going.

Course and Workshop Planning

Course planning is the systematic organization of the content, activities and resources of a workshop, course, or a program of study. A course-planning file is a set of living documents consisting of:

- A course outline, which provides potential learners with an overview of the course and the instruction
- A series of lesson plans
- A collection of resource materials to accompany each of the lesson plans.

The following are recommended as questions to keep in mind when you are planning your course and each class session:

- What do I/they want to accomplish?
- What can I/they do to accomplish it?
- How will we know how well we did?

The following suggests ten steps in planning, with some questions to consider at each step. In "real life," the process usually hops around a bit, rather than progressing neatly from Step 1 through to 10!

1. Think about the learners and assess them on the following:

    - What expectation might they have?
    - What feelings might they have about themselves, the subject, place, etc.?
    - What might be their reasons for taking the course?
    - What other pressures/demands do they have?
    - What uses can they make of what you will teach them?
    - What motivations might they have? How can you capitalize on these motivations?
    - What previous background/experience might they have for you to build on?

2. Think about yourself:

    - What aspects of the course excite you?
    - What are your strengths/weaknesses?
    - What do you see as most important about the topics/skills?

3. Set learning objectives and/or expressive outcomes:

    - What do you want the students to leave with at the end of the course/session?
    - What skills/knowledge/attitudes should they gain?
    - Is there a certificate or accreditation? If so, what demands does that create?
    - List all your ideas
        - Are these realistic?
        - Do they fit with the time/resources available?
        - Which are "essential," "important," or "nice to know"?
        - What can be omitted?
    - Set more general course objectives first, then use them as a basis for specific objectives for each session.
    - Determine how flexible you can be about the objectives.
    - Determine how you will negotiate the objectives with the students.

4. Organize the material:

    - For the course – decide which objectives will be dealt with each session, and in what order.
    - For class sessions break the objectives down into specific topics/skills, then organize them into a logical sequence.
    - Possible ways of organizing material are:
        - simple to complex (known to unknown)
        - general to specific (overview to detail)
        - concrete to abstract (case study)
        - chronological sequence (historical)
        - steps in a process
        - problem-centred approach

5. Choose instructional techniques:

    - What is the best activity/technique to achieve each objective?
    - What instructional techniques will you use (e.g., lecture/discussion, case analysis, field trip)?
    - Try to vary the techniques you use within each session, and vary what the student is doing (e.g., listening, talking, questioning, practicing).

6. Plan your time:

    - For the course – set out an overall plan listing objectives and techniques for each class session.
    - For each session – set out a time schedule, as suggested in the lesson plan format.
    - Consider what you'll be doing and what the students will be doing throughout the session.
    - Plan for practice opportunities as appropriate.
    - Ask yourself if the timing and amount of material are realistic – what can be omitted/shortened if time runs out?
    - Have you allowed time for student input and questions?

7. Arrange resources:

    - What materials, equipment, handouts, will you need? Be sure to think in detail about this – extension cords, spare bulbs, pens, and masking tape, etc.
    - Plan well ahead – book/order what you need and make sure it is working before class.

8. Decide how to evaluate:

    - How/when will you evaluate:
        - Students' achievements?
        - Students' satisfaction?
        - Your own performance?
    - How will you use the information you get?

9. Plan how to deal with “mixed success”:

    - Some students will learn a given topic or skill quickly, others may take longer. How will you deal with such a mixed group?
        - Ask the ones who have learned it to help the others?
        - Form smaller groups and work with each separately?
        - Provide extra materials/exercises to address weak areas?

10. Plan for reinforcement of learning:

    - Plan to reinforce/build on what’s been learned.