INSTRUCTIONAL APPROACHES

Effective teachers know they are teaching students as well as content. They also know that, in every class, there will be a diversity of students, each of whom will bring to the activity environment different perceptions, prior knowledge, attitudes and learning styles. It is the teacher's responsibility to make use of a variety of instructional approaches to ensure that all types of students and their various needs are being met.

The following information reinforces the importance of using a variety of instructional approaches:

<table>
<thead>
<tr>
<th>Retention Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>5%</td>
</tr>
<tr>
<td>Reading</td>
<td>10%</td>
</tr>
<tr>
<td>Audio-Visual</td>
<td>20%</td>
</tr>
<tr>
<td>Demonstration</td>
<td>30%</td>
</tr>
<tr>
<td>Discussion Group</td>
<td>50%</td>
</tr>
<tr>
<td>Practice by Doing</td>
<td>75%</td>
</tr>
<tr>
<td>Teach Others/</td>
<td>90%</td>
</tr>
<tr>
<td>Immediate Use of Learning</td>
<td></td>
</tr>
</tbody>
</table>

Of what we know we learn approximately

- 1% through Taste
- 2% through Touch
- 4% through Smell
- 10% through Hearing
- 83% through Sight

Of what we learn we retain approximately

- 10% of what we Read
- 20% of what we Hear
- 30% of what we See
- 50% of what we Hear and See
- 70% of what we Say
- 90% of what we Say As We Do

(From Fundamental Principles and Practices of Teaching: A Practical Theory-based Approach to Planning and Instruction by H. Lang and A. McBeath. (In Progress.) Fort Worth: HBJ-Holt. Ref. 9)

The following pages discuss five main types of instructional approaches:

Direct Instructional Strategies
Indirect Instructional Strategies
Interactive Instructional Strategies
Independent Study Instructional Strategies
Experiential Instructional Strategies

The instructional strategies and methods which most readily complement this curriculum guide are given. Each strategy is briefly defined. This is followed by a description of the respective methods and suggested ways of assessing or evaluating students.

Direct Instruction Strategies
Direct instruction strategies are highly teacher centred. The lecture method is a direct instruction example. Mini-lectures can be effectively used throughout Physical Education 6-9.

Mini-lecture

The mini-lecture is a one-way type of communication. It is an efficient way of providing a small amount of information in a short period of time. Mini-lectures are effective when they are:

- 10-15 minutes in duration, never longer than 20 minutes
mixed with group discussion and demonstrations
accompanied with such aids as overheads and flipcharts
Example: presenting information on heart rate range before students calculate their own.

Appropriate Assessment and Evaluation Techniques:

The purpose of a mini-lecture is to impart knowledge. The most appropriate way of assessing understanding is a combination of test items such as essay, short answer, multiple choice, true and false.

Structured Overview

This strategy refers to organizing and arranging topics or concepts to make them meaningful to students.
Example: unit overview and how it fits into the rest of the year.

Appropriate Assessment and Evaluation Techniques:

As this is usually used as an organizer, teachers are not likely to assess it.

Explicit Teaching

This strategy involves six teaching functions:
reviewing daily
presenting new material
conducting guided practice
providing feedback and correctives
conducting independent practice
reviewing weekly and monthly
Example: progression of a games unit.

Appropriate Assessment and Evaluation Techniques:

As explicit teaching involves students interacting with content, the most appropriate way of assessing may be with a combination of test items.

Drill and Practice

This strategy refers to the structured, repetitive review of previously learned concepts to a predetermined level of mastery.
Example: golf circuit with 9 irons using gymnasium and field.

Appropriate Assessment and Evaluation Techniques:

This strategy tends to focus on skills. In this curriculum the focus is on both physical and non-physical skills. To assess level of skill, teachers will need to use performance assessments or performance tests.
An example of a drill and practice assessment may be in movement patterns. The performance cues for each movement pattern are located in the Motor Skills Development section of this document. These performance cues can be inserted as criteria on a template for anecdotal records, checklists or rating scales.
Teachers need to establish criteria indicating what students are to do. The criteria are inserted into the templates for anecdotal records, rating scales and checklists.

Compare and Contrast

This strategy involves looking for similarities and differences.
Students:
observe details and develop criteria
identify similarities
search and sort out differences based on criteria
summarize
Example: hockey slapshot versus golf 9-iron shot.

Appropriate Assessment and Evaluation Techniques:

This strategy reaches the application level and higher on Bloom's Taxonomy. The four components of compare and contrast as listed above can be used as criteria in the templates for anecdotal records, checklists and rating scales.

Didactic Questions

These are questions that tend to be convergent (they tend to focus on one topic) and factual. They often begin with "what," "where," "when," "how". (Saskatchewan Education, Training and Employment (1991), Instructional Approaches. Ref. 10
Examples: How would you improve your badminton forehand stroke? What is the top end of your heart rate range?

Appropriate Assessment and Evaluation Techniques:

The teacher is able to observe both content and process through this activity. As a written assignment or an oral presentation or interview (live or taped) may be the ongoing student activity used for assessment, the teacher will record student progress using a rating scale, checklist or anecdotal records.

Content criteria may include:

the match between the student's goal and the plan of action to achieve that goal
inclusion of time frame
inclusion of support system
inclusion of regular checkpoints
Process criteria may include:
evidence of planning
gathering of information
organization of information
analysis of information for applicability
making a judgment
creating whole from series of parts
revising

Demonstrations

These refer to teacher activities and talks that show students how. Demonstrations apply primarily to skills and processes and are useful for helping students acquire procedural knowledge.
Example: how to enter personal fitness data into a computer.

Appropriate Assessment and Evaluation Techniques:

Demonstrations feature the teacher as performer; therefore the students are not involved and no assessment is necessary.

Indirect Instruction Strategies

Indirect instruction strategies are student centred. Indirect instruction methods are very effective when:
thinking outcomes are desired
attitudes, values or interpersonal outcomes are desired
process is as important as product
the focus is personalized understanding and long-term retention of concepts or generalizations
lifelong learning capability is desired Instructional Approaches: A Framework for Professional Practice, 1991, p. 19.) Ref. 10

Concept Mapping

This instructional method can promote creative, meaningful, long-term learning. In the Physical Education 6-9 curriculum, concept mapping can be used to have students see the relationships between new information and what they already know.
Concept mapping:
is a technique used to identify key concepts or to show the relationships between concepts
can facilitate learning and recall
can make clear to students the key ideas to learn
can be used to review subject matter
can provide a summary of a unit or lesson
(From C.E.L. Staff Development Program, 1988.) Ref. 11
Example: showing the relationship between the movement pattern sending and the subsequent performance cues related to beginner, intermediate and advanced.

Appropriate Assessment and Evaluation Techniques:

As concept mapping is used as an engaging activity and synthesis activity or one that supplies diagnostic information, teachers may consider the type of information they wish to collect in assessing students’ concept maps. Anecdotal records may be the most appropriate data recording method.

Possible criteria to direct anecdotal comments may be:
inclusion of required concepts
depth of relationships between concepts
student background information
rationale or logic involved in the concept map structure

Problem Solving

This strategy refers to a process of decision making or a series of steps used by individuals or groups to arrive at answers to questions or the solution of a problem.
Example: planning a school fitness promotion video.

Appropriate Assessment and Evaluation Techniques:

Teachers may insert these steps into a checklist, rating scale or anecdotal record template in order to record student information. These steps become the criteria.

Reflective Discussion

This strategy involves students individually or as a group in thinking more deeply about a topic through discussion.
Example: choosing a workout partner.

Appropriate Assessment and Evaluation Techniques:

Effective communication skills and contributions are criteria to be evaluated here. A sample assessment tool, Anecdotal Records in Reflective Discussion, is provided in the Templates for Assessment and Evaluation section of this guide.

Concept Attainment

Concept attainment is an inductive way to teach a concept in which examples and non-examples are provided in order to develop students' understanding of the particular concept.
Example: obese versus overweight.

Appropriate Assessment and Evaluation Techniques:

In assessing student learning, teachers may wish to focus on the following criteria recorded on an anecdotal record template:
student method of categorization
demonstrated knowledge of content elements
relationships between the content elements
formulation of a general statement based on the above mentioned elements

Interactive Instruction Strategies
Interactive instruction strategies employ groups of learners. Before the group members set to work it is important for them to be aware of what they are to accomplish, how much time they have, and what the recording or reporting procedures are. Successful use of interactive instruction methods in Physical Education 6-9 requires students to be aware of particular group process skills. A few basics include respect for the opinions of others, attentive listening skills, recording and reporting skills.

Peer Practice

This strategy involves each student rehearsing skills or conceptual information with a peer.
Example: motor skills.

Appropriate Assessment and Evaluation Techniques:

Teachers may use an anecdotal recording instrument that highlights student participation and contributions.

Discussion

A problem or issue is chosen that either does not require a particular response or that requires students to discover an answer. Discussion is based on material familiar to students and should conclude with consensus, a solution, clarification of insights gained or a summary.
(Saskatchewan Education, Training and Employment (1991), Instructional Approaches, p. 23.) Ref. 10
Example: assessing individual fitness programs.

Appropriate Assessment and Evaluation Techniques:

It is the teacher’s decision whether discussion is assessed. Should teachers wish to evaluate discussion, what is to be looked for must be determined and shared with students ahead of time.

Problem Solving

This strategy refers to a process of decision making or a series of steps used by individuals or groups to arrive at answers to questions or the solution of a problem.
Example: setting evaluation criteria for an assignment.

Appropriate Assessment and Evaluation Techniques:

Teachers may insert these steps into a checklist, rating scale or anecdotal record template in order to record student information. These steps become the criteria.

Cooperative Learning Groups

These groups are heterogeneous with respect to student characteristics and have two to six members sharing the various roles. Group members are interdependent in achieving the group learning goal. The jigsaw, explained next in this section, is an example of a cooperative learning group activity.
(Saskatchewan Education, Training and Employment (1991). Instructional Approaches.) Ref. 10
Example: planning a fitness presentation.

Appropriate Assessment and Evaluation Techniques:

The self evaluation instrument My Group Skills or Performance is provided for your use.

Jigsaw

Aronson (1978) developed this method whereby students become experts on a topic and then meet with other experts to study the assigned topic. To conduct a jigsaw:

each student receives a portion of the materials to be introduced
students leave their home or mixed groups and meet in expert groups
expert groups discuss the material and brainstorm ways in which to present their understandings to the other members of their mixed group
the experts return to their mixed groups to teach their portion of the materials and to learn from the other members of their mixed group
For more information see the Resource Package that is included with the Staff Development Program which accompanies the Instructional Approaches document.
Example: learning about basic weightlifting principles.

Appropriate Assessment and Evaluation Techniques:

The rating scale Cooperative Group Skills can be inserted into each student's portfolio and used over time. It is located in the Templates for Student Assessment and Evaluation section of this document.

Brainstorming

This strategy is used to generate ideas and imaginative solutions. The teacher acts as facilitator and records learners' comments. Brainstorming is most effective when:
- all statements are accepted
- quantity rather than quality is emphasized
- no criticism, anything goes (no matter how outrageous or far-fetched)
- no discussion or judgments except for clarification purposes
- people can build on other ideas (piggybacking/cross stimulation is encouraged)
- a fixed time is allocated
- once ideas have generated they can be combined or ordered

Example: discussing possible ways to improve flexibility.

Appropriate Assessment and Evaluation Techniques:

Teachers may decide to assess brainstorming when it is used in the context of cooperative learning groups. Anecdotal records may be the preferred method of recording data. A template is provided in the next section.

Circle of Knowledge

This strategy involves each student in thinking and discussing with a peer before sharing ideas with a large group.

Example: developing a personal fitness plan.

Appropriate Assessment and Evaluation Techniques:

In this curriculum, the circle of knowledge method is used in the same manner as Reflective Discussion. To assess student learning, teachers may wish to use the Anecdotal Record Form for Reflective Discussion/Discussion/Circle of Knowledge as a data recording method. It is found in the section called Templates for Student Assessment and Evaluation.

Tutorial Group

A tutorial group is a group formed to receive remediation or enrichment as directed by a teacher or peer tutor.

Example: peer coaching to improve volleyball serve.

Appropriate Assessment and Evaluation Techniques:

This method reflects the organization of student groupings; therefore, teachers will need to choose assessment techniques that are appropriate to the instructional method used. For example, tutorial groups may be used with didactic questions. The teacher would then reference the appropriate assessment techniques for didactic questions.

Interviewing

Interviewing is the meeting of people face to face to confer about a topic or issue.

Example: surveying students about their attitudes towards physical activities.

Appropriate Assessment and Evaluation Techniques:

A Student Self-Assessment for Preparing and Conducting an Interview is found in the Templates for Student Assessment and Evaluation section.

Independent Study Instruction Strategies
Independent learning has implications for responsible decision making. Individuals are expected to analyze problems, reflect, make decisions and take purposeful actions. To take responsibility for their lives in times of rapid social change, students need to acquire lifelong learning capability. As most aspects of our daily lives are likely to undergo profound changes, independent learning will enable individuals to respond to the changing demands of work, family and society. (Saskatchewan Education, Training and Employment, Instructional Approaches: A Framework for Professional Practice, 1988, p.53.) Ref. 10

Learning Contracts

Learning contracts can be used throughout Physical Education 6-9. Students and teacher work together during the designing, running and evaluation of personal contracts.

Example: specializing in one activity (for example, in a racquets unit, specializing in one-wall racquetball).

Appropriate Assessment and Evaluation Techniques:

You may wish to refer to Rating Scale for Investigating Movement Patterns found in the Templates for Student Assessment and Evaluation section.

Research Projects

Students are involved in research projects individually, as partners and as members of small groups.

Example: investigating various fitness equipment (for example, cost, quality).

Appropriate Assessment and Evaluation Techniques:

Consult the Templates for Student Assessment and Evaluation section to locate a sample checklist, Report Assessment.

Essays


Example: in place of a formal exam.

Computer Assisted Instruction

This strategy refers to any instructional program in which the computer performs, manages or supports some or all of the teacher or provider functions.

Example: personalized fitness programs (entering data, evaluating what is on the market).

Appropriate Assessment and Evaluation Techniques:

If teachers access such a resource, student learnings are to be assessed in ways that correspond to the initial purpose or intent. In other words, teachers ask themselves the questions: "Why did I have this student working with a particular software package?" "What learning objectives are the students to accomplish by working through this package?" Teachers will then assess students on those learning objectives.

Reports

Reports may be written, graphic or oral in nature and involve the students in expressing their learnings about a chosen topic.

Examples: a beginner player's break down of a basic badminton serve.

Appropriate Assessment and Evaluation Techniques:

A written report can be assessed by using Report Assessment located in the Templates for Assessment and Evaluation section of this guide. A graphic report can certainly be assessed. The teacher and student need to determine the criteria on which the graphic will be assessed ahead of time. The criteria would then be inserted into a template for a check-list, rating scale or anecdotal records.

Homework
This refers to assignments students are given that are to be completed during their time away from the classroom. Homework is both an assessment technique and an instructional method. (Saskatchewan Education, Training and Employment (1991), Student evaluation: A teacher handbook, p. 93) Ref. 12

Example: calculating personal heart rate with this information to be used during next day's class.

### Appropriate Assessment and Evaluation Techniques:

Assignment applies to both the cognitive and motor skill domains. If the purpose of the homework is motor skill improvement, a check-list or rating scale is appropriate. If the purpose is cognitive or attitudinal, instruments can be designed accordingly.

### Assigned Questions

Assigned questions are those prepared by the teacher to be answered by individuals or small groups of students with the students discussing their responses among themselves or with the teacher. (Saskatchewan Education, Training and Employment (1991), Instructional Approaches) Ref. 10

Example: questions related to purchasing a worthwhile piece of sports equipment (such as running shoes).

### Appropriate Assessment and Evaluation Techniques:

If the questions are designed at the knowledge level, a recall style test can be used to assess student learnings. If the questions are designed to be at the application level or higher then complex criteria are established.

### Experiential Instruction Strategies

These strategies are student centred. The emphasis is on process, not product.

Experiential instruction strategies are very useful because:

- They greatly increase understanding and retention
- Students are more motivated because they actively participate and teach one another by describing what they are doing
- They are inductive - illustrations or examples are given and a rule, concept or generalization is then formulated
- They are activity oriented
- Students reflect about an experience and apply what they have concluded to other contexts

There are five phases:

- Experiencing (an activity occurs)
- Sharing (reactions and observations are shared)
- Analyzing (patterns are determined)
- Inferring (concepts are developed)
- Applying (plans are made to use learnings in new situations)

### Games

Games are learning or training activities that include conflict, control and rules for winning and terminating the activities. They are structured or contrived activities.

Example: creating games which focus on specific movement patterns (such as skipping [locomotion] and kicking a ball [sending]).

### Appropriate Assessment and Evaluation Techniques:

Games may be assessed using Assessing Group Presentations or Games found in the Templates for Student Assessment and Evaluation section of this guide.

### Focused Imaging

This strategy is the process of internally visualizing an object, event or situation. It enables students to relax and allow their imaginations to take them on journeys, to experience situations first hand and to respond with their senses to the mental images formed. (Saskatchewan Education, Training and Employment (1991), Instructional Approaches) Ref. 10

Example: motor skill development (visualizing the dive before doing it).

### Appropriate Assessment and Evaluation Techniques:

Perhaps student self-assessment would be the focus because this instructional method is difficult for an observer to assess. The self-assessment
might involve the teacher to the extent that the teacher instructs the students to concentrate on one or two sensations throughout the experience. These key sensations might be recorded using a check-list or anecdotal record completed by the student.