

Bisson, C. (2023). Outdoor learning pedagogy. In S. Priest, S. Ritchie & H. Ghadery (Eds). Outdoor Learning in Canada. Open Resource Textbook. Retrieved from <http://olic.ca>

Outdoor Learning Pedagogy

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An educational system isn't worth a great deal if it teaches young people how to make a living but doesn't teach them how to make a life
— David Suzuki (Tucker, 2012).

In Canada, one of the greatest outdoor educators, unbeknown to him, might be David Suzuki of the famed “The Nature of Things.” This well-known Canadian television series is a long running Canadian Broadcasting Corporation science education-oriented show which Suzuki has hosted since 1970. Equivalent to Jacques Cousteau, Carl Sagan, or Neil deGrasse Tyson, David Suzuki is what is known to French-Canadians as a “vulgarisateur,” a popularizer or translator of scientific facts/concepts/theories for mass audience consumption. Therefore, one could say that Suzuki has been a prominent Canadian outdoor learning pedagogist for the past 50 years.

Although Suzuki is not an outdoor educator in the true sense of the word, he has been educating millions of Canadians and people around the world about nature, the environment, and the impact of human activities on the planet. Because of his goal to reach an audience at a national level, from the eastern coast of Labrador to the west coast of British Columbia, Suzuki opted to use an iconic form of instruction

according to the work of Edgard Dale (1969). Coincidentally, Dale’s instructional theoretical model came at the same time Suzuki got involved with CBC’s show “The Nature of Things.”

In his 1969 book, *Audiovisual Methods in Teaching*, Dale saw three large categories of learning engagement, (1) symbolic, (2) iconic, and (3) enactive. The symbolic category includes highly abstract learning experiences such as reading a book or listening to a lecture from an instructor. The iconic category includes learning experiences using pictorial instructional tools such as written words on whiteboards, images, drawings, models, graphics, video, and of course television. The enactive category represents learning experiences with more direct involvement of the learner such as dramatization (i.e., role-playing and skits), contrived experiences (i.e., simulations) and of course, direct experiences. (Bisson, 2020)

Dale (1969), like many other pedagogists and experiential education scholars, argued that not every learning experience is equal, especially from the point of view of the learner’s level of engagement. In Dale’s infamous “Cone of Experience,” the expression “level of active learner engagement” refers to the amount and quality of engagement learners will experience from

the point of their various domains of self. These domains are: (1) Psychomotor, (2) Affective, and (3) Cognitive. You will notice that these three domains are borrowed from Bloom's domains of learning proposed in his well-known text: *Taxonomy of Educational Objectives* (Bloom, 1956).

Consequently, we can postulate that although Suzuki has and is still an influential pedagogist about and for the great outdoors, his modality of instruction limit the learners to passively receive the content knowledge he shares via an audio-visual format, which can be translated according to Dale as a very low level of active learner engagement. (Bisson & Priest, 2021) In other words, Suzuki's CBC series could never instruct in the great outdoors. (Smith, 1960)

Of course, effective outdoor learning pedagogy currently offered in the 10 provinces and 3 territories of Canada are engaging learners of various ages by using more enactive (Dale, 1969) forms of instruction. This chapter will explore the current best practices in outdoor learning pedagogy for the instruction of (1) Skills – Psychomotor, (2) Content Knowledge – Cognitive, and (3) Values – Affective.

Three Types of Lessons

What is learning? The late outdoor educator Clifford Knapp once wrote: "Learning is the process of acquiring and constructing knowledge." (Knapp, 1993, p.25) Although this is a commonly accepted definition of the term "learning," for the context of this chapter, let us propose two additional common outcomes of the outdoor learning process. We propose that during an outdoor lesson, the learner can acquire not only knowledge, but also skills and values. (Bisson, 2020).

We can approach the planning of any outdoor lesson by knowing that the lesson we are about to teach will either focus on the development, reinforcement, or acquisition of skills (See Table 1), knowledge (See Table 2), or values (See Table 3), or a combination of any of these three lesson outcomes.

An understanding of these three possible lesson outcomes is essential since, as you will see in this chapter, different teaching strategies are more suitable for teaching different types of lessons desired outcomes. Each teaching strategy described in this chapter is grouped into one of four categories: (1) Skill oriented teaching strategies, (2) Knowledge oriented teaching strategies, (3) Value oriented teaching strategies, and (4) Multi oriented teaching strategies. (Bisson, 2020)

For instance, to effectively teach a technical skill (Table 1) such as tying a bowline knot, it would be more appropriate to use a teaching strategy known as Explain-Demonstrate-Practice, Evaluate-Correct-Practice (a.k.a. EDP-ECP). However, using EDP-ECP to teach about cloud families and cloud types would not be appropriate or even remotely effective since the topic of the lesson is not a technical skill but rather a skill of the content-knowledge kind.

Content-knowledge (Table 2) oriented lesson topics such as cloud families and cloud types would be better instructed via a teaching strategy such as an interactive or seeded lecture supported by visual aids. Finally, when it comes to values (Table 3), it is more effective to use a teaching strategy such as personal journaling or a nature solo when the topic of the lesson is the exploration of one's human-nature relationship.

Note that many teaching strategies are suitable for more than one lesson topic. For example, puppetry can be used to teach content knowledge – cool facts – about an animal such as a beaver. Yet, using a beaver puppet can also be helpful in teaching about values such as land ethics. Imagine using a beaver puppet to explain the tension between a nature-centric and an anthropocentric view of the world when it comes to the question "should we or should we not destroy a beaver dam?"

Defining Skill Instruction

As one can see in Table 1, skill instruction is not limited to the classic instruction of physical/technical outdoor-related skills like lifting a canoe for

a portage or orienting a map using a compass. Skill instruction in outdoor learning can also include intrapersonal and interpersonal (Priest & Gass, 2018). “Intra” and “inter” personal skills can easily be taught and practiced using instructional strategies used to teach a knot such as bowline. Experienced outdoor educators will engage their students in developing their “intra” or “inter” personal skills by using strategies such as EDP-ECP, videography, or prompting cues.

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Table 1: Skill Instruction

SKILL & DEFINITION	EXAMPLES
Physical/Technical: gross and fine motor skills as well as practical skills	<ol style="list-style-type: none"> 1. Teaching how to lift a backpack (Gross Motor Skills) 2. Teaching how to tie a figure eight on a bight (Fine Motor Skills) 3. Teaching how to light a white gas stove (Practical Skills)
Interpersonal: skills which relate to the interactions among people	<ol style="list-style-type: none"> 1. Teaching how to give feedback 2. Teaching how to communicate effectively 3. Teaching how to display trustworthy behaviour
Intrapersonal: skills or attributes which relate to oneself	<ol style="list-style-type: none"> 1. Teaching how to make decisions as a leader. 2. Teaching how to display grit amidst adversity. 3. Teaching how to reflect on one's behaviour

Defining Knowledge Instruction

Table 2 further identifies and defines what is possible to include in a lesson plan when an outdoor educator teaches a knowledge-based lesson. The lesson could include facts, concepts, theories, or a combination of these three form of knowledge acquisition. Classic instructional strategies to engage the learners in a knowledge-based lesson will include interactive lecture, demonstration, mystery challenge, or guided discovery to just name a few.

Table 2: Knowledge Instruction

KNOWLEDGE & DEFINITION	EXAMPLES
Facts: information that is considered to be true or objective	<ol style="list-style-type: none"> 1. Teaching the elements of the Canada Wilderness Area Declaration Regulations of 2000. 2. Teaching the origin of the name of a flower such as a Dandelion 3. Teaching about the components of the GPS system.
Concepts: an abstract or generic idea generalized from a reality	<ol style="list-style-type: none"> 1. Teaching the reason behind the proper physical position of a belayer in relationship to a top rope anchor 2. Teaching the importance of proper blood perfusion in the human body during a vascular injury. 3. Teaching the importance of speed, angle, and lean (SAL) to take an eddy turn in a kayak
Theories: the general or abstract principles of a body of facts in science, social science, humanities or the arts	<ol style="list-style-type: none"> 1. Teaching about plant succession in an aging forest 2. Teaching about the impact of climate change on wildlife habitat and distribution 3. Teaching about the heuristic traps leaders can fall in when making a decision

Defining Value Instruction

Table 3 summarizes what outdoor educators can explore when they plan on teaching value-based lessons in an outdoor learning curriculum. Value-based lessons are quite common in outdoor learning programs and are often focusing on environmental values, but they can also help stu-

dent explore personal or social values. For these lessons, using engaging lessons are essential since the primary goal of these lessons is to have learners explore their own value system. Strategies such as personal journaling, case studies, group discussion, or debates will easily engage the learners in a value-based lesson.

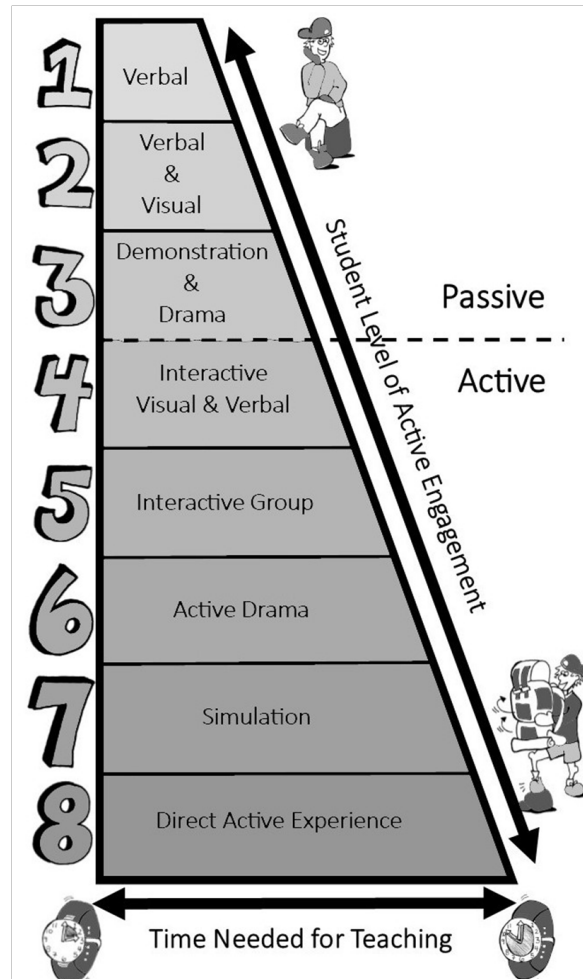
Table 3: Value Instruction

VALUE & DEFINITION	EXAMPLES
Personal: the general expression of what is most important to a person	1. Exploring one’s position regarding social justice 2. Exploring one’s feelings about risk taking 3. Exploring one’s commitment to group success
Social: the general expression of what is most important for a group, community, or society	1. Exploring the importance of trustworthiness in friendship 2. Exploring the impact of gossiping on group cohesion 3. Defining the acceptable behavioral norms for a group
Environmental: the general expression of what is most important for one in regard to the natural environment	1. Exploring one’s carbon footprint on the Earth 2. Defining one’s personal relationship with Nature 3. Exploring the role of modern society on the planet’s climate

Level of Engagement Model (LEM)

Inspired by Dale’s Cone of Experience a new model was developed to explain the level of “experientiality,” and learner’s engagement found in the various teaching strategies used by many professional outdoor educators throughout Canada. The new model called Level of Engagement Model (LEM) features 8 levels of instruction as shown in Figure 1 (Bisson, 2020). The levels are numbered 1 to 8 with the first three levels representing teaching strategies that present a more passive form of learning like Dr. Suzuki has been using for so many years. Levels 4 to 8 represent teaching strategies that are more engaging, which are often used in outdoor learning programs in all Canadian provinces & territories. You will notice that some categories are found

Figure 1: Level of Engagement Model (LEM), used with author and publisher permission



both above and below the line indicating the type of engagement (i.e., passive vs. active). For instance, you will find level 2 – Visual & Verbal the passive section of the model and Interactive Visual & Verbal in level 4 in the active section of the model because as you will see in the description of the teaching strategies at this level, verbal and visual based strategies of instructions can also be very engaging for the learners if delivered appropriately.

The same is true for some specific teaching strategies such as puppetry which is found in level 3 when performed by the instructor team to an attentive but passive audience but also in level 6 as student puppetry when the learners themselves

are performing the puppet show. See the table below (Table 4) to identify where each of the 42 teaching strategies featured in this chapter are found in the LEM.

Table 4: LEM with Corresponding Teaching Strategies (see numbers in last section)

1. Verbal	<ul style="list-style-type: none"> • Visual (Guided) Imagery (20) • Quotes & Readings (17) • Storytelling (25)
2. Visual & Verbal	<ul style="list-style-type: none"> • Video Feedback (6) • Role Modelling (32)
3. Demonstration & Drama	<ul style="list-style-type: none"> • Demonstration (13) • Theatrics (27) • Puppetry (28)
4. Interactive Visual & Verbal	<ul style="list-style-type: none"> • Interactive Lecture (7) • Lecture with Seeded Questions (8) • Lecture with Seeded Facts (9) • Lecture with Seeded Q-Cards (10) • Mystery Challenge (12) • Guided Discovery (16) • Socratic Method (36)
5. Interactive Group	<ul style="list-style-type: none"> • Case Studies (21) • Student Storytelling (26) • Discussion (33) • Debate (34) • Games (37) • Problem Solving Activities (38) • Group Journalling (19)
6. Active Drama	<ul style="list-style-type: none"> • Student Puppetry (29) • Skits (31) • Role Play (30)
7. Simulation	<ul style="list-style-type: none"> • Simulation (39) • Scale Modelling (15) • Skill Modelling (14)
8. Direct Active Experience	<ul style="list-style-type: none"> • EDP-ECP (1) • Step-by-step (2) • Whole-part-whole (3) • Physical Manipulation (4) • Prompting Cues (5) • Leap Frogging (11) • Nature Awareness Activities (22) • Art (23) • Music (24) • Personal Journalling (18) • Exploratory Learning (35) • Solo Experience (40) • Peer Teaching (41) • Service learning (42)

Like any theoretical model, the LEM is not meant to be a perfect reflection of a hierarchy of teaching strategies from best to worst. It is simply try-

ing to inform outdoor instructors that in selecting different strategies, the experience of the students might differ in their level of engagement.

Time versus Engagement Level

The LEM also presents a common reality when using more engaging or active forms of teaching strategies. This reality is often known as the “nemesis” of all dedicated experiential outdoor educators. The more experiential your lesson will be, the more time it might take to complete the lesson. For instance, it might take you 10 minutes to explain the importance of being known as a trustworthy person, but it might take you 30 minutes to engage your learners in a trust-oriented activity and process it to address the same value-based “take home message.”

So, if time allows for it, it might be better for your students to be actively engaged at a level 5 by performing a problem-solving activity than by being passively engaged at a level 1 when simply being told what they should learn about trustworthiness.

You will note that in a later section, a list of 42 field-tested teaching strategies for the outdoors are labelled according to their placement in the LEM. This will help you know how engaging, experiential, and time consuming each teaching strategy can be.

Teaching Style vs. Teaching Strategy

Before using the various teaching strategies presented above, it is important to differentiate teaching styles from teaching strategies. Too often the terms are interchangeably used in outdoor education literature which can lead to confusion.

- Teaching Strategy: Method or technique of teaching that has a sequence of events and specific actions, along with interactions between learners and teachers, learners, and the subject or between learners themselves.
- Teaching Style: Describes the particular

manner, in which, someone teaches. It is important to remember that teaching is an interpersonal activity; therefore, one's personality will define one's teaching style since it is impossible to teach without expressing one's own persona. For instance, if your personality is fun and lively, your style of teaching will reflect these characteristics. If you are more reserved as a person your teaching might be more formal. If you are a detail-oriented type of person, you might like to share many facts with your students.

What is most important is that your teaching style is true to your personality. If you are attempting to be someone else while teaching, your students will see through it. Students will respond more favorably to an authentic teacher than to someone who is attempting to mimic another's style of instruction. Never forget that teaching is based on trust between the instructor and the learners. Therefore, to be considered trustworthy, a teacher's voice, demeanor, and interaction with the students must be genuine.

However, there are some personality traits that are best avoided. Teaching with a sarcastic, rude, divisive, or a patronizing tone of voice will not create a healthy teacher – student relationship. Using off-color jokes or foul language to elicit an easy laugh can be offensive.

Outdoor Teaching Strategies

In this section, 42 field-tested unique teaching strategies appropriate for outdoor learning curriculum are presented in four categories: (1) skill-oriented, (2) knowledge-oriented, (3) value-oriented, and (4) multi-oriented. A short description summarizes the core component of each strategies as well as providing a concrete application of these instructional strategies in an outdoor learning lesson.

SKILL-ORIENTED

1. EDP-ECP (Level 8): Explain – Demonstrate – Practice – Evaluate – Correct – Practice. An elaborate version of the classic 3 D's (Describe –

Demonstrate – Do) often used to teach technical skills. Application: Effective for teaching a simple knot such as a bowline.

2. Step by Step (Level 8): Similar to the EDP-ECP, however it differs by breaking down the skill into small steps that all students perform at the same time with your guidance. Application: Effective when teaching a complex knot such as the bowline on a coil.

3. Whole – Part – Whole (Level 8): For complex skills. First you demonstrate the complete skill, then break it down into smaller parts using the EDP-ECP strategy, and finally put it all together to perform the whole skill. Application: Effective when teaching a kayak rescue roll.

4. Physical Manipulation (Level 8): Best with a complex skill. Manually manipulate the movement of the student to help the learner acquire kinesthetic information about their body position. Application: Effective when teaching a J-stroke on land or in the water.

5. Prompting Cues (Level 8): Prior to the practice phase, associate a set of principles regarding the physical performance of a skill with a single cue word. Use the cue as needed while the student practices. Application: Effective when teaching body position when climbing.

6. Video Feedback (Level 2): Record student performance using a video camera and then show the video for immediate objective feedback about a performance. Application: Effective when teaching cross-country skiing techniques such as a double pole push.

KNOWLEDGE-ORIENTED

7. Interactive Lecture (Level 4): Requires a prepared sequence of information no longer than 10 - 15 minutes during which time you ask questions that engage the audience. Application: Effective when teaching a lesson on cloud families.

8. Lecture with Seeded Questions (Level 4): Variation on interactive lecture. You give numbered

questions to a few students before class with directions to ask each question at a specific time during the lecture. Application: Effective when teaching a lesson on lightning.

9. Lecture with Seeded Facts (Level 4): Variation on the lecture with seeded questions. Instead of questions, write facts on index cards and select a few students to share the fact at the appropriate time during the lecture. Application: Effective when teaching about trees.

10. Lecture with Seeded Q-Cards (Level 4): Write key words on index cards (Q-cards) and distribute them to all students. Students listen and fill in the blanks with their “key word” when appropriate. Application: Effective when teaching a lesson on heat injuries.

11. Leapfrogging (Level 8): Use when traveling through a changing landscape. Along the route prompt close observation by students as they analyze differences in environments. Application: Effective when teaching plant adaptation.

12. Mystery Challenge (Level 4): Students solve a problem through a series of questions that can only be answered with “YES” or “NO.” They ask about possible reasons to explain the mystery. Application: Effective when teaching about frost scars on trees.

13. Demonstration (Level 3): Support an interactive lecture by presenting a model, movement, or prop to represent a concept in the lesson. Application: Effective when teaching about extreme hazardous weather.

14. Skill Modeling (Level 7): Works when students practice mimicking a skill in a contrived setting. Application: Effective when using a mannequin to teach CPR.

15. Scale Modeling (Level 7): Use when teaching difficult concepts such as geological time. Students experience abstract concepts on a human scale. Application: Effective when teaching about the size of the solar system.

16. Guided Discovery (Level 4): You have specific answers in mind for students to arrive at. You guide them to discover these answers through appropriate questioning. Application: Effective when teaching LNT fire making using the “D’s” of fire wood selection (dead, down, dry, digit, and distance).

VALUE-ORIENTED

17. Quotes and Readings (Level 1): Read a quote or a short text to inspire students or encourage reflection. Application: Effective when teaching about Farley Mowat’s writing about the Canadian arctic wolves.

18. Personal Journaling (Level 8): Encourages reflection and exploration of ideas of interest to students. Often not shared but can also be used to establish a written dialog between you and the student. Application: Effective when teaching about one’s personal land ethic.

19. Group Journaling (Level 5): Similar to the personal journaling but students write in one journal that is shared among the group. Students can reflect, take class notes or draw. Application: Effective when sharing notes and quotes during a wilderness expedition.

20. Visual (Guided) Imagery (Level 1): Ask the students to close their eyes and listen to a narration. Often, the narrative places the student at the center of the imagery. Application: Effective when teaching about wilderness ethics.

21. Case Study (Level 5): Use a summary of real-life events that occurred in the past while challenging students to provide solutions to avoid, correct, or respond appropriately to the event. Application: Effective when teaching about decision making.

22. Nature Awareness Activities (Level 8): Introduce different sensory activities that help students explore nature through touching, smelling, hearing, seeing or tasting. Application: Effective when teaching about tree bark.

MULTI-ORIENTED

23. Art (Level 8): Incorporate art into your lesson to help students conceptualize, problem-solve, problem-solve or practice a skill. Application: Effective when teaching about animal adaptation and having students build a highly adapted creature out of natural materials.

24. Music (Level 8): Hook students, embellish a lesson, reinforce content or demonstrate ways to boost morale by inviting students to create songs, sing songs, move to rhythms or dance. Application: Effective when used to reinforce natural history content via student rap music.

25. Storytelling (Level 1): Read or narrate a story aloud to your group. The stories can represent any genre. Application: Effective when teaching about constellations and the Greek myths associated with them.

26. Student Storytelling (Level 5): Invite students to create and share a mythical or fantasy story to explain a natural characteristic. Application: Effective when teaching about the characteristics of a tree such as the Easter Hemlock small cones and drooping head.

27. Theatrics (Level 3): You become a real life or fictional character. Dress up and use props as you interact with your students through dialogue and discussions. Application: Effective when teaching about the life of a Voyageur during the fur trade era.

28. Puppetry (Level 3): Use puppets to teach lessons with you acting as a ventriloquist, interpreter or Sesame backstage puppeteer. Application: Effective when teaching about natural history topics such as beaver behavior.

29. Student Puppetry (Level 6): Empower your students to learn while becoming puppeteers. After researching a topic, reinforce learning by having small teams present “shows” to the rest of the group. Application: Effective when teaching about endangered species.

30. Role-Play (Level 6): Give a small group of students a specific scenario that they will act out for the rest of the students. The scrip should be written or carefully explained by the instructor. Application: Effective when teaching a specific LNT principle.

31. Skits (Level 6): Give a concept, idea or situation to a small group of students and ask them to improvise a short play that will be presented to the rest of the group. Application: Effective when teaching about positive and negative expedition behavior.

32. Role Modeling (Level 2): Live and role-model the skills or values that you present to the students. This strategy is often used to reinforce desired behaviors. Application: Effective when teaching how to dress for different weather conditions.

33. Discussion (Level 5): Often framed as an open-ended question. You can use various techniques to encourage students to participate in this safe space. Application: Effective when teaching about challenges leaders face when they emerge within a group.

34. Debate (Level 5): Organize your students in small groups so that they can present an argument for or against an issue. Moderate the debate and agree upon rules. Application: Effective when teaching about the impact of technology on wilderness expeditions.

35. Exploratory Learning (Level 8): Students learn through exploration. They are guided by you when needed, but learning comes primarily through the student’s own exploration. Application: Effective when teaching about tree identification with a tree dichotomy chart.

36. Socratic Method (Level 4): In this strategy, rather than “telling,” you lead students to discover new concepts or values through a series of ordered questions. Application: Effective when teaching about land stewardship.

37. Games (Level 5): Any activity that involves

competition, cooperation or social interaction through play that encourages students to apply, new knowledge or skills. Application: Effective when teaching about different canoe strokes in a canoe tag game.

38. Problem Solving Activities (Level 5): After teaching some basic principles, set up a real life or fictive problem and ask the students to solve it either individually or in a group. Application: Effective when teaching about stove repair.

39. Simulation (Level 7): This strategy places the students in a real-life situation and asks them to behave as if the events were real. Simulations happen in real time. Application: Effective when teaching first aid skills.

40. Solo Experience (Level 8): This strategy places the students in isolation in nature. A solo can last from a few minutes to a few days. Application: Effective when teaching about self-reliance.

41. Peer Teaching (Level 8): You teach a specific skill, knowledge, or value to a small group of student and then ask them to teach the same lesson to other small groups of students. Application: Effective when teaching camping related knots.

42. Service Learning (Level 8): Involve your students in real life service experiences in which they will have to apply various new skills, knowledge, or values. Application: Effective when teaching about compassion.

Conclusion

This chapter presented some general concepts and specific applications related to outdoor learning pedagogy. We have seen that unlike Dr. David Suzuki, who is a significant national Canadian educator via his many successful television and radio series, effective and experienced outdoor educators across Canada are not limited to only use passive or iconic forms of instruction strategies. In the contrary, they engage their learners in a variety of experiential lessons by using active forms of instructional strategies. These strategies are often selected base on the topic or desired

outcome of the lesson which can either be a skill, knowledge, value, or a combination of three. The strategies are also selected based on other important factors such as audience maturity and time allocated for the lesson. In the end, we have seen that teaching strategies in outdoor learning curriculum are plentiful and can be selected based on a valid theoretical such as the LEM.

References

Bisson, C. (2020). Outdoor education teaching strategies: increase student engagement while transforming your teaching. Nuannaarpoq publishing.

Bisson, C., & Priest, S. (2021). How to teach experientially. Retrieved from https://assets.noviams.com/novi-file-uploads/aee/CHIP/NEW_PDFS/10.pdf

Bloom, B. (1956). Taxonomy of educational objectives: The classification of educational goals. (1st ed.). Longmans, Green.

Dale, E. (1969). Audiovisual methods in teaching (3rd ed.). Dryden Press.

Knapp, C. (1993). Lasting lessons: A teacher's guide to reflecting on experience. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.

Priest, S. (1986). Redefining Outdoor Education: A matter of many relationships. *Journal of Environmental Education*, 17(3), 13-15.

Priest, S., & Gass, M. A. (2018). Effective leadership in adventure programming (3rd Ed.). Human Kinetics.

Smith, J. W. (1960). The Scope of Outdoor Education. *The Bulletin of the National Association of Secondary School Principals*, 44(256), 156–158.

Tucker, E. (2012, April 13). Top 10 memorable David Suzuki quotes. Global News. Retrieved from <https://globalnews.ca/news/233616/top-10-memorable-david-suzuki-quotes/>