

Chapter 31

Transfer of Learning in Adventure Programming

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As seen throughout this text, the growth of adventure experiences has produced a wide variety of applications. Some of these applications have been used to provide and/or enhance leisure or recreational experiences. The focus of these types of experiences is on the activity itself, and while there may be application to future recreational experiences, the major intent of these activities is on the leisure experience.

However, when the focus of adventure experiences is on educational or therapeutic goals, the intent of the process pertains not only to the immediate activity, but also on the relation of the experience to future issues for the participant. The true value or effectiveness of the program lies in how learning experienced during adventure activity will serve the learner in the future. Dewey (1938) goes as far as to say that this quality of application to future learning "discriminates between experiences that are worthwhile educationally and those that are not" (p. 33). This aphorism is especially true for adventure education and therapy programs. Whether it has been a juvenile offender developing more appropriate social behaviors, a freshman student obtaining a more beneficial educational experience at a university, or another program where adventure is used as a valid educational or therapeutic medium, the credibility of programs using a challenging environment is based upon the positive effects they have on their students' or clients' futures.

This effect that a particular experience has on future learning experiences is called the transfer of learning or

simply *transfer*. Not only is transfer important for adventure education programs, it also has been identified as critical for the support, continuation, and/or livelihood of such programs. For example, when describing the value of adventure programming as a milieu used to prevent delinquency, the U.S. Department of Justice (1981) states that:

Despite having some plausible theoretical or correlational basis, wilderness programs without follow-up (transfer) into clients' home communities should be rejected on the basis of their repeated failure to demonstrate effectiveness in reducing delinquency after having been tried and evaluated. (p. 2-77)

While transfer is critical to the field of adventure education, probably no other concept is so often misunderstood. Much of the confusion plaguing the transfer of learning has resulted from two main factors. First is the concern that the initial learning usually takes place in an environment (e.g., mountains) quite different from the environment where the student's future learning will occur. Second is the lack of knowledge concerning the variety of methods available to promote transfer. Neither of these problems are limited to adventure education, but there are certain theories, models, and techniques that pertain directly to the field and can assist in eliminating much of the confusion surrounding the topic and enable individuals to strengthen the transfer of their program's goals.

Theories Concerning Transfer

Concerning the application to adventure education, three central learning theories pertaining to transfer exist that explain how the linking of elements from one learning environment to another occur (Figure 31.1). Bruner (1960) describes the first two, specific and nonspecific transfer, in attempting to show how current learning serves the learner in the future:

There are two ways in which learning serves the future. One is through its specific applicability to tasks that are highly similar to those we originally learned to perform. Psychologists refer to this specific phenomenon as specific transfer of training; perhaps it should be called the extension of habits or associations. Its utility appears to be limited in the main to what we speak of as skills. A second way in which earlier learning renders later performance more efficient is through what is conveniently called nonspecific transfer, or, more accurately, the transfer of principles and attitudes. In essence, it consists of learning, initially, not a skill but a general idea which can then be used as a basis of recognizing subsequent problems as special cases of the idea originally mastered. (p. 17)

The following example from a student's notebook serves to illustrate the use of specific transfer in adventure education:

Today during the class we learned how to rappel. Initially I was quite frightened, but I ended up catching on to the proper techniques and enjoying it quite a bit! One thing that helped me in learning how to rappel was the belaying we did yesterday. With belaying, our left hand is the "feel" hand while the right hand is the "brake" hand. With rappelling, it is the same; our left hand is the "feel" hand and our right hand is used to "brake" our rappel and control our descent.

In this example, the student's previous experiences of specific hand skills learned while belaying positively affected her ability to learn the necessary and correct hand skills of rappelling. Figure 31.1 illustrates these events occurring—the initial stage of learning how to belay, the development of the proper and safe habits while belaying, and finally, the use of these skills while rappelling.

The next example from another student's notebook highlights what Bruner describes as nonspecific transfer,

or the use of common underlying principles in one learning situation to assist the student in a future learning experience:

(As a result of the wilderness course) I've seen myself developing more trust in my friends at school. The no-discount policy helps me quite a bit, but I think what helped the most was learning how I receive as well as give support to others. I felt that this was the most important thing I learned (while on the wilderness course).

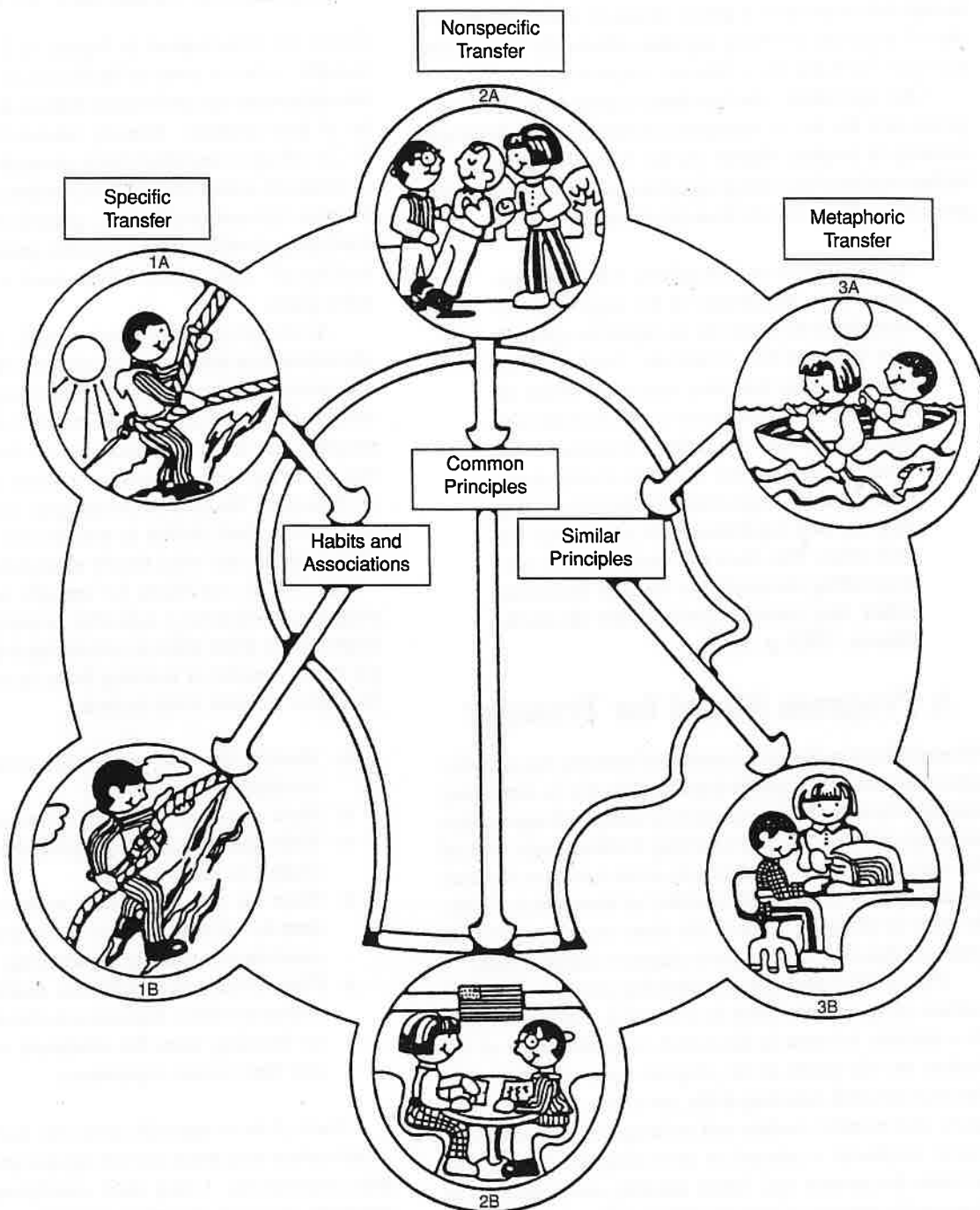
In this second example, the student has taken the common underlying principles that she learned about developing trust (i.e., receiving and giving support from and to others) from the wilderness course and generalized those principles and attitudes to a new learning situation (i.e., school). This ability to generalize by the learner is crucial for nonspecific transfer to occur. Figure 31.1 shows the connection of two learning situations by common underlying principles or nonspecific transfer. In this example, the student, through an initiative such as the Willow Wand exercise supplemented with a no-discount policy, learns valuable principles and attitudes about developing trust in peer relationships. She takes these principles, generalizes them, and transfers them to a new learning situation, such as developing meaningful relationships at school based on trust.

The third transfer theory associated with adventure learning also requires the student to generalize certain principles from one learning situation to another. But the principles being transferred in this theory are not common or the same in structure, but are similar, analogous, or metaphorical. The following passage illustrates a student making the connection between the similar underlying principles of canoeing and his group working together:

There has been a certain jerkiness in the group. It's like the progress of a canoe. When the people on each side paddle in unison, with each person pulling his weight, the canoe goes forward smoothly. If certain people slack, or if there is a lack of coordination, progress becomes jerky. The canoe veers (from) side to side. Time and energy are wasted. (Godfrey, 1980, p. 229)

In this particular situation, the student is not using the principles of efficient canoeing for future aquatic learning experiences. He is instead transferring the concepts or principles of canoeing as metaphors for another learning experience that is similar, yet not the same.

This third type of transfer, metaphoric transfer, is also illustrated in Figure 31.1. Here the student takes the similar underlying principles mentioned in the previous

Figure 31.1 Three Theories of Transfer in Adventure Education

The above diagram illustrates how learning in adventure education is linked to future learning experiences. In the first theory, specific transfer, the learner takes the habits and associations acquired during a previous experience (Diagram 1A—the hand skills of belaying) and applies them to a new experience to assist him in developing a new skill (Diagram 1B—the hand skills of rappelling.) In the second theory, nonspecific transfer, the learner generalizes the common underlying principles received from a previous experience (Diagram 2A—developing trust from an initiative game) and employs them in a new learning situation (Diagram 2B—developing trust with peers at school). The third theory, metaphoric transfer, shows the learner transferring the similar underlying principles from canoeing (Diagram 3A) to working with other individuals in a business corporation (Diagram 3B).

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example, generalizes them and applies them to a future learning experience with similar elements. The future learning experience represented in Figure 31.1 (page 229) for metaphoric transfer is a group situation where the necessity of everyone working together efficiently is vital (in this case, working for a business corporation).

One individual who has done a great deal of investigation into the use of metaphoric transfer with adventure learning is Stephen Bacon. In the following passage, he further explains how using experiences that are metaphoric provide a vehicle for the transfer of learning:

The key factor in determining whether experiences are metaphoric is the degree of isomorphism between the metaphoric situation and the real-life situation. Isomorphism means having the same structure. When all the major elements in one experience are represented by corresponding elements in another experience, and when the overall structure of the two experiences are highly similar, then the two experiences are metaphors for each other. This does not imply that the corresponding elements are literally identical; rather, they must be symbolically identical. (Bacon, 1983, p. 4)

A Program Model for Transfer

When reviewing the three transfer of learning theories discussed previously, it can be seen that the key to increasing transfer often lies in the selection or design of appropriate learning activities and the teaching methodology. One of the major faults of adventure education has been the lack of planning for the transfer in either of these areas. Transfer must be planned, much in the same manner as an educational objective or a properly planned learning skill.

Figure 31.2 portrays the learning process of an adventure program interested in procuring positive transfer for a student. As seen in the model, once the needs of the student and the goals of the program are properly identified and matched, learning skills, activities, teaching strategies, and transfer models and techniques are planned. A strong emphasis is placed on providing the connection between the present and future learning environments to increase the amount of transfer which will occur. Note that throughout the program if the needs of the student change, the model directs the instructor to assess these changes and adapt new learning activities and transfer elements to the student's new behavior. At the completion of the adventure experience, follow-up activities are also used to enhance positive transfer.

Factors and Techniques That Enhance Transfer of Learning

Given the information in Figure 31.2 for programming transfer, what are some of the factors or techniques adventure educators can use to assist them in increasing the transfer of their students' learning (shown by step 4 in Figure 31.2)? Many researchers have presented exhaustive lists of elements which can lead to positive transfer, but some of these are unalterable (e.g., genetic factors concerning intelligence) while others have little application to the "non-traditional" atmosphere where most adventure learning takes place.

As stated in the program model, it is necessary for adventure educators to select not only the proper transfer of learning theories, but also the techniques and activities involved with the increase of transfer applicable to their program. Ten techniques adaptable to the transfer of learning occurring with adventure activities are presented here as examples. Many other techniques exist and should be selected for their ability to transfer the goals of the specific program and what theory of transfer one is using.

1. *Design conditions for transfer before the course, program, or learning activities actually begin.* Several steps can be done prior to a learning experience that can aid in the transfer of learning from an adventure activity. Examples of these steps include:

- a. Identify, develop, or establish a commitment to change in the student.
- b. Have a student set goals for the experience.
- c. Write and set tight learning objectives for the student in the program.
- d. Place the plans and goals made by the student in writing to create a stronger commitment for transferring the learning.
- e. Plan adventure experiences based on their ability to enable students and clients to transfer learning from the adventure experience into their future experiences.

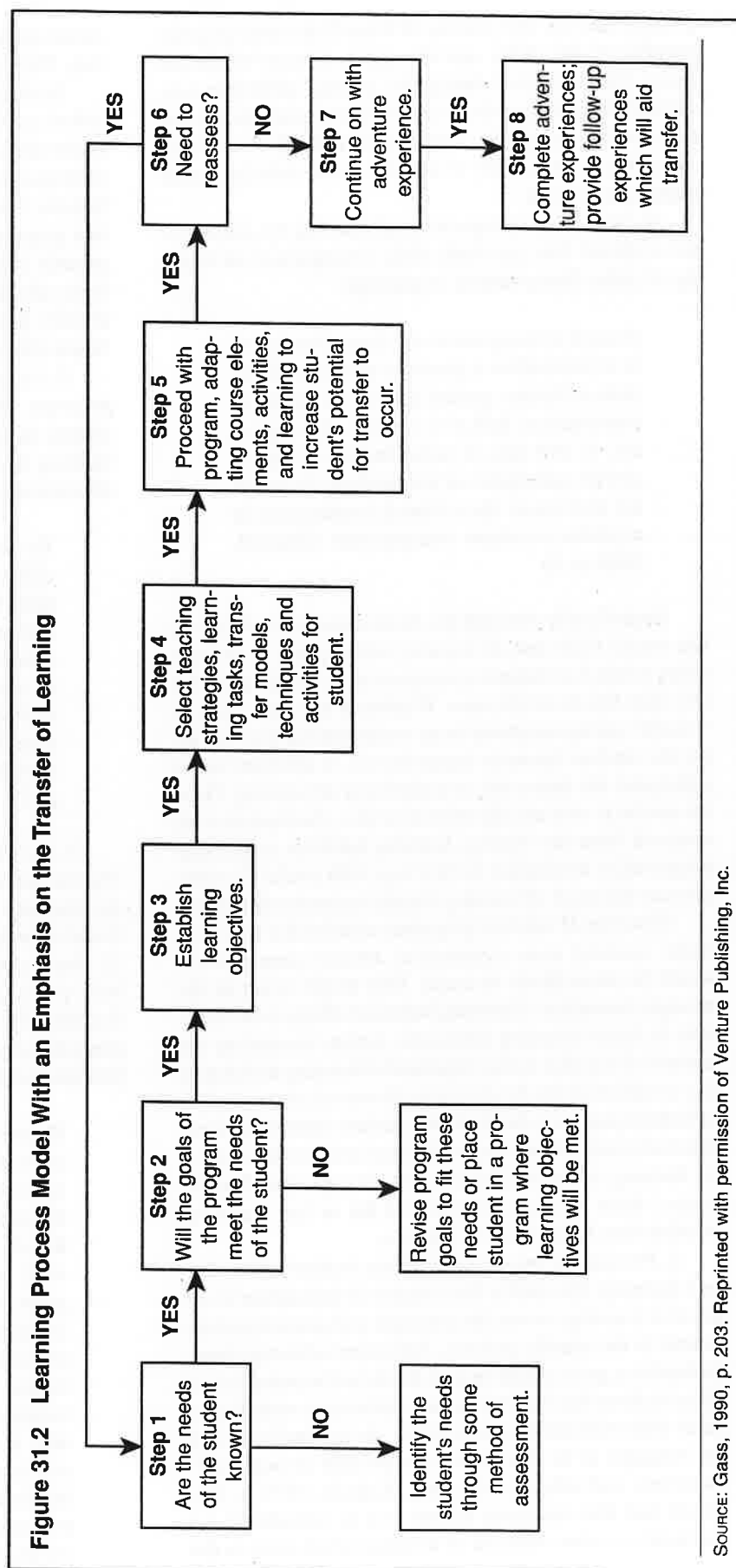
Each of these steps illustrates the need for instructors of adventure education and therapy programs to think and plan proactively. Using such conditions enhances the strengths of using adventure experiences for educational or therapeutic goals.

2. *Create elements in the student's learning environment similar to those elements likely to be found in future learning environments.* Learning environments with strong applicability to future experiences have greater potential for a more positive transfer of learning. The following example of a "youth at risk" in a wilderness program shows how elements of the program were created to assist him in transferring a behavior, in this case, a greater self-concept, into a subsequent learning environment:

Throughout the course, Kurt was presented with a variety of challenging tasks. He overcame strong personal fears and doubts and succeeded at many of the tasks that required a great deal of initiative. The staff noticed that after he had developed a stronger belief in himself, he was especially zealous on tasks that required a great deal of trust and responsibility (e.g., betraying). Throughout the course, the staff continued to place Kurt in progressively more difficult situations that demanded a strong, realistic belief in himself as well as other members in the group. Many of the discussions at night were about the relationships between the elements they faced as individuals and as a group in the wilderness and how these elements mirrored the situations they would encounter when they returned to their communities.

Other learning behaviors are often presented in a similar manner to increase their relevance and application to future learning environments for students. Certain programs have found that by approaching problem-solving and decision-making skills in a general manner, their students succeed in creating elements valuable for future use (Gass, 1985, p. 5).

3. *Provide students with the opportunities to practice the transfer of learning while still in the program.* There was probably no better time for Kurt to practice the skill to be transferred (i.e., an increased self-concept) than during the adventure experience. The variety of contexts in which to



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practice transfer, the number of times Kurt could practice transferring the skills, and the strong support within the group that developed during this outdoor adventure program all helped Kurt focus on necessary generalizing and conceptualizing skills. These skills proved valuable in strengthening his ability to transfer these skills for future learning situations.

4. *Have the consequences of learning be natural—not artificial.* One can think of the consequences of learning as either being natural or artificial:

Natural consequences are those that follow or would follow a given act unless some human or human system intervenes. Artificial consequences follow or would follow a given act, if, and only if, some human or human system anticipates or responds to the initial act and causes the artificial consequence or modifies a natural consequence. (Darnell, 1983, p. 4)

Superficially viewing the field of outdoor education, one would think that all learning taking place in the outdoors would have natural consequences. Unfortunately, far too often this is not the case. Whether it has been from an “overly” caring instructor or an overpowering one, too often the student becomes dependent on, is shielded by, or anticipates the instructor as a reinforcer of learning. Once the course is over and the reinforcer (i.e., the instructor) is removed from the student, learning behavior is severely hampered or terminated. In this way, with artificial consequences the result of learning transfer is extremely limited.

However, if outdoor programs could make their students’ learning more experiential, natural consequences would be more likely to occur. This would result in the stronger formation of learning behaviors likely to be available in future learning situations, hence, increasing the amount of transfer. Some experiential learning techniques that could foster the development of natural consequences include relying upon the students’ intrinsic rather than some external source of motivation; placing more responsibility for learning on the student (see #8); and not shielding the learner from the consequences of his or her learning, whether they be positive or negative.

5. *Provide the means for students to internalize their own learning.* The ability for a student to internalize his or her own learning creates the concepts and generalizations central to the transfer process. Adventure educators have differed to a great extent on how this is best accomplished. Many believe that by getting their students to verbalize or place their own learning into words, the internalization of the concepts to be transferred is increased through self-awareness and reflective thinking (Kalisch, 1979, p. 62). Others feel that conscious efforts such as verbalizing are secondary to other methods of internalization, such as the

subconscious development of metaphors for transfer (Bacon, 1983, p. 2).

Methods that enable students to internalize learning behaviors from adventure programs often use reflective processes to aid internalization. An example of one method often used by adventure education programs that increases transfer through reflection is the “solo” experience. Certain programs feel that such an experience, when appropriately implemented, reinforces the learning that occurs in the adventure program and helps students and clients to identify how they are going to use the experience in the future (Gass, 1985, p. 6).

6. *Include past successful alumni in the adventure program.* Sometimes the incorporation of successful alumni in courses or programs assists in the transfer of learning for students and clients. The following examples demonstrate how one program uses this technique:

By listening to how these alumni used the skills they had learned from the program in their lives, students began to envision how they might use elements of the program in future situations. While not always advisable or possible for some programs, many individuals felt this “vicarious” method of planning future transfer strategies aided in the transfer of learning for students. (Gass, 1985, p. 5)

7. *Include significant others in the learning process.* The inclusion of other individuals closely associated with the student’s or client’s learning process has often been found to heighten the transfer of learning (Gass, 1985, p. 2). Some of the persons used to fill this vital role have been peers, parents, counselors, social workers and/or teachers. The following example illustrates how one program includes significant others in the learning process to provide positive transfer for a student:

Before Cristina participated on the adventure portion of the family therapy program, several objectives were established for her family, counselor and school teacher—as well as herself. Cristina and her family met with the staff, other participants and their families prior to the adventure experience in order to familiarize both the students and the parents of the reasons for their participation on the course. Another reason for this meeting was to inform them of possible changes in the student that could occur. The program continued to stay in close contact with Cristina’s family in order for them to adjust to and support possible changes in Cristina’s personality and behavior.

Cristina also created several "goal contracts" in a pretrip meeting with the assistance of a staff member in the areas of personal, family, school and peer development. The contracts were discussed on the course and monitored monthly, with proper adaptations, for the next six months. These contracts were agreed to and supported by Cristina's family. Cristina's teacher also participated on several portions of the wilderness course, enabling him to support, reinforce, and try and use the observable changes during the adventure program with Cristina in the classroom.

8. *When possible, place more responsibility for learning in the program with the students or clients.* Many programs, especially those invested in teaching adventure education experientially, believe that placing more responsibility with the student in the program not only increases his or her motivation to learn but also his or her incentive to apply the learning in future experiences. Examples of this range from some programs involving students in the planning of food menus to other programs that have students organize and conduct an entire adventure experience on their own. Certain programs have implemented strong service components that have a definite focus on future experiences outside of the adventure experience (MacArthur, 1982, pp. 37–38) and enhance the self-responsibility within the student which could lead to a greater transfer of learning.

No matter what techniques programs use to involve their students and clients in the planning and operations of an adventure learning experience, their involvement should depend on their ability to accept responsibility for learning and their willingness and desire to do so. A person that willingly accepts responsibility for learning will transfer information much more readily than an individual who approaches such a task with a sense of indifference or resentment.

9. *Develop focused processing techniques that facilitate the transfer of learning.* In many adventure education programs, processing, debriefing, and facilitating are often used to enrich a student's learning experience. The length and intensity of these debriefings can differ from a quick and informal sharing of the day's occurrences to a lengthy and formalized discussion of a particular incident with a specific set of rules and guidelines. Despite this vast difference in the application of techniques, there are certain general characteristics that, if included in the processing of an experience, will assist in the transfer of learning. Some of these characteristics are:

- a. Present processing sessions based on the student's or client's ability to contribute personally meaningful responses. Use feedback

that is well-intended, descriptive, specific, and directed toward positive change.

- b. Focus on linking the experiences from the present and future learning environments together during the processing session. This can often be accomplished by actually contracting with the students for this to occur.
- c. When possible, debrief prior to and throughout the learning experience and not just the end of it. This allows students to continually focus on the future applicability of the adventure experience.

10. *Provide follow-up experiences which aid in the application of transfer.* Once a student begins transferring learning, the presence of follow-up activities (e.g., continued communications, feedback on learning decisions, processes and choices) serve to heighten transfer abilities. Again, one reason for this might be the positive effects of reflection between learning situations. Reflection gives the student the opportunity to see and evaluate the results of past learning behaviors, garner learner motivation and plan future learning strategies and directions.

Conclusion

As educators who use the outdoors and challenging situations to help students to learn more efficiently, we all aspire to teach our students something usable; and therein lies the value of our program. But unless we assist our students in providing our own linkages, bridges and connections to their learning, the utility of much of the education we care and work so hard to bring about is put away in the equipment room along with the ropes and backpacks. As we strive to become better educators and proponents of the value of adventure education, let us look upon transfer as a device to excite students by showing them the future value of their current learning experiences. This motivation, provided by the opportunity to use their learning again, can furnish one of the strongest incentives for our students' continued learning and the field's success.

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