

7 Borrowing strategies from adventure-based learning to enhance group processing in Cooperative Learning

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Debriefing [group processing] is like painting a wall. Rather than the teacher painting the whole wall themselves you could have the whole classroom of students involved in painting the wall by sharing their opinions and ideas.

Stuhr et al., 2010

Key terms: 'I' statements, put-downs, five-finger contract, full-value contract, isomorphically framing

Cooperative Learning is a pedagogical model in physical education that uses 'small groups so students work together to maximize their own and each other's learning' (Johnson *et al.*, 1993, p.6). This is followed by a purposeful group-processing session, which addresses both academic and social goals. Johnson and Johnson (1989) found that Cooperative Learning produced increased student achievement, more positive relationships and greater psychological health than competitive or individualistic learning. In addition, Cooperative Learning involves face-to-face interaction between group members (Strahm, 2007) and to be carried out effectively requires the development of interpersonal and small-group skills (Cohen, 1994; Johnson and Johnson, 1994; Kagan, 1994). These interpersonal skills need to be taught within Cooperative Learning in a structured way that allows group members to reflect on the level of group interactions. Indeed, an important goal of the Cooperative Learning model is to facilitate students' awareness of and to help them improve how they behave in group situations (Villa *et al.*, 2010). For an explicit definition of the elements of Cooperative Learning please refer to Dyson and Casey's Introduction in this book.

What is group processing?

Group processing is one of the five principles of the Cooperative Learning model. Johnson and Johnson (1999) defined group processing as 'reflecting on a group session to (a) describe what member actions were helpful and unhelpful and (b)

make decisions about what actions to continue or change' (p. 85) and can take place in small-group or whole-class situations. Villa *et al.* (2010, p. 33) described group processing as:

[A] reflective technique that promotes students' sense of self determination and empowerment, because they learn to recognize how they have worked through conflicts in ideas and opinions, overcome their struggles in learning new content, and gained new understandings of complex or difficult material.

Within group processing students will discuss which behaviours are helpful or unhelpful in achieving their goals and which behaviours they will continue to use or change. An important aspect of group processing is to analyse how well a group or individual is performing based on the task and group goals. Johnson *et al.* (1993) provided steps for achieving a successful process: (a) allowing sufficient time; (b) providing a structure for the process; (c) positive feedback; (d) specificity rather than vagueness in the process; (e) keeping students engaged; (f) reminding students to use their cooperative social skills; and (g) stating clear expectations for the purpose of the process. When conducted effectively group processing enhances group maintenance, promotes social skills, provides feedback to group members and facilitates collaborative skills (Johnson and Johnson, 1999). Villa *et al.* (2010) advised that group processing first requires the teacher to actively monitor students during the group work by observing and analysing the strengths and challenges of both students and group, and supporting each group when needed. The teacher then shares this information with the groups during the processing time and helps students to identify their strengths and areas for improvement.

Johnson and Johnson (2009a) have identified four components of group processing. The first component is that each student, group and class gives and receives *feedback* on how effectively they worked together and achieved the task/goal. The feedback should be descriptive and specific. Having received feedback on their performance, the students then *analyse and reflect* on this feedback. During this stage of the process, it is important to use questions that promote discussion rather than 'yes' or 'no' answers. The third component of the process requires students to analyse and describe group members' actions that contributed to or inhibited the group completing the task effectively. The group will then set *improvement goals* to enhance the quality of their work. The last component of the process is to provide an opportunity for the group to *celebrate* their hard work and success.

A variety of tools are available to teachers to help facilitate group processing (see Table 7.1 for examples). These tools can range from those that are more teacher-directed to those that are more student-centred. When using group processing in each lesson, it is critical to use different methods to keep the process interesting and engaging for students. Changing the tool for group processing can also assist the teacher in structuring the processing to focus on a particular aspect of each group's performance or social skills, avoid monotony for the students and reduce the risk of receiving the same answers each lesson.

Table 7.1 Group processing tools

<i>Tool</i>	<i>Application</i>
Group share	Group members discuss with each other what they did well during the lesson.
My contributions or accomplishment	Group members state what specifically he or she did to help the group to be successful.
Checklist	Individual group members score themselves on a 5 to 10-item checklist of behaviours important to functioning as a group. The group then discusses these checklists relative to enhancing group success.
Incomplete statement	Group members complete statements to describe their performance during the lesson. These skills can focus on academic and/or social skills.
Turn to your neighbour	Each group member takes a turn complimenting another group member on his or her performance on a task or social skill used in the lesson.
Oral statement bombardment	One student is selected and each group member tells him or her how they helped the group during the lesson.
Yearbook	Each student has a note card with his or her name on that is passed around for other group members to write one thing about how this person helped the group during the lesson.
Processing questions	Each group member answers a series of questions on their performance during the lesson. These questions usually focus on how well they did with reference to: interpersonal skills; areas for improvement; and goal setting.

Research has shown that group processing has a positive effect on group achievement (Johnson *et al.*, 1990; Yager *et al.*, 1986), positive student relationships (Putnam *et al.*, 1989) and students' perceptions of self-worth and belonging (Strahm, 2007). Archer-Kath *et al.* (1994) found that group processing was more effective when combined with individual rather than whole-group feedback. Reflecting on individual group members' actions has also resulted in a reduction in social loafing, clarification of the importance of group goals and the involvement of group effort (Johnson and Johnson, 2009a). Group processing can also foster: increased self-esteem, enhanced group-member efforts to achieve group goals, commitment to the group and collective identification (Johnson and Johnson, 2009b). Despite the stated benefits of group processing, it is often one of the elements of the Cooperative Learning model that is least used by teachers (Villa *et al.*, 2010). In a study of teachers from six elementary schools Antil *et al.* (1998) found that only one third used group processing when implementing Cooperative Learning. Within physical education, Casey *et al.* (2009) reported that group processing 'simply was not possible in such a time-poor environment' (p. 418). Consequently, in this study, the constraints of implementing Cooperative Learning within a 35–40-minute lesson resulted in group processing being sacrificed in favour of other elements of Cooperative Learning.

Research in physical education (Casey and Dyson, 2009; Dyson 2001, 2002; Dyson *et al.*, 2010) has reported that group processing was used as part of Cooperative Learning with elementary and secondary students. Dyson (2001, 2002) stated that the teachers in his studies conducted both small-group and whole-class processing sessions during Cooperative Learning. In one study (Dyson, 2002) the group processing presented in the data was related to conflict resolution regarding student roles and communication within the groups. Dyson *et al.* (2010) found that utilizing group processing in every lesson provided the opportunity for students to engage in cognitive tasks. Both small-group and whole-class processing was observed in physical education lessons.

Group processing is akin to the reflection process that occurs in adventure-based learning. While the two processes are similar, different strategies and models that have been used in adventure-based learning can be transferred to group processing in Cooperative Learning. Incorporating some of these strategies and models may provide a framework for teachers to utilize group processing more consistently and effectively within Cooperative Learning.

What is adventure-based learning?

Adventure-based learning is concerned with the interpersonal and intrapersonal relationships of participants (Priest, 1990). The premise of participation in adventure-based learning is that an increased level of self-awareness is brought about by positive change experienced through participation. More specifically, adventure-based learning has been described as a deliberate sequence of activities (communication, cooperation, trust and problem solving) focusing on the personal and social development of the students (Cosgriff, 2000).

Adventure-based learning is based on the theory of experiential learning. In contrast to the traditional behavioural and cognitive theories of learning, experiential learning is seen as being more holistic, combining cognition and behaviour with conscious perceptions and reflection (Priest and Gass, 1997). Experience permeates all forms of learning (Beard and Wilson, 2002) and is the process through which individuals make sense of a situation. Experiential learning occurs when individuals participate in an activity, then critically reflect on the activity, gain insight from the reflection and this results in a change of understanding and/or behaviour (Luckner and Nadler, 1997). Although there are many different experiential models (e.g. Joplin, 1995; Kolb, 1984; Pfeiffer and Jones, 1980) most consist of four phases: experiencing, reflecting, generalizing and applying (Figure 7.1). These models are often cyclical and involve complex interrelationships within and between each phase (Luckner and Nadler, 1997).

Once an individual engages in an activity, whether it is one that occurs naturally or one that is designed to promote specific learning, they have entered the experiencing phase. Upon completion of the activity, an individual engages in guided reflection related to what occurred during the activity. Reflection is central to human learning (Dewey, 1938). Indeed, without reflection, any learning that may result from an experience is left purely to chance (Luckner and Nadler,

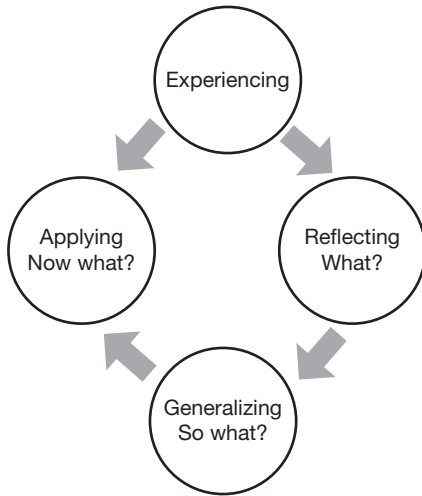


Figure 7.1 Experiential learning cycle.

1997). There are many different forms of reflection, ranging from an individual activity to a group discussion. The reflection phase answers the question ‘what happened?’ in the activity. Generalizing occurs when deductions can be made from the specific experience to other facets of the individual’s life. To facilitate generalization, it is important to understand what happened in the activity and how that can help to inform other situations. The generalizing phase answers the question ‘so what?’ relative to what happened in the activity. Applying occurs when an individual puts into action the lessons learned from the generalization phase. The question of importance here is ‘now what?’ and involves taking what was learned from the experience and applying it to other areas of life. For experiential learning to truly take place, it is important that all phases of the model are accomplished, and that sufficient time is given for the process to be completed (Luckner and Nadler).

Gass and Stevens (2007) identified eight generations of facilitating the adventure process:

- 1 letting the experience speak for itself without guidance from the facilitator;
- 2 speaking on behalf of the experience, where the facilitator as the expert tells the participants what they learned;
- 3 debriefing the experience, with the facilitator guiding the participants’ learning;
- 4 directly frontloading the experience, where the facilitator highlights the learning that will take place before the activity;
- 5 isomorphically framing the experience, with the facilitator using metaphors to connect the learning from the adventure experience to participants’ lives;

- 6 indirectly frontloading the experience to address participants' issues, primarily used in therapeutic programmes;
- 7 flagging the experience, where the facilitator reinforces the desired behaviour changes for participants;
- 8 empowering self-facilitation, where the participants facilitate their own experience; used with motivated and mature learners.

The first three generations are used after an experience, the next four can be used before, during and after an experience and the last generation has the individual rather than the facilitator taking on the responsibility for processing the experience. In education programmes debriefing and self-facilitation are the most commonly used methods (Gass and Stevens, 2007). The following discussion will focus on debriefing, as this is the method I use within the adventure-based learning course in the physical education teacher education (PETE) programme at the Ohio State University.

The purpose of the course is to introduce the pre-service physical education teachers to adventure-based learning. More specifically, it deals with how adventure-based learning can be used to build community among K-12 students and foster interpersonal and intrapersonal growth, and shows how students can demonstrate responsible personal and social behaviours in physical activity settings (National Association of Sport and Physical Education, 2004, standard 5). The course focuses on the following aspects of adventure-based learning:

- the theory underlying adventure-based learning and experiential learning;
- the importance of sequence and flow of activities in adventure-based learning;
- the concepts of interpersonal and intrapersonal skills;
- the role of the facilitator and how that differs from teaching physical education;
- the importance of processing (brief and debrief, including how to transfer learning) within adventure-based learning;
- direct experience of activities;
- opportunities for facilitation of activities.

A key element of the course is providing a structure for leading a student-centred debriefing session to enhance learning from the experience. Debriefing is a technique used in adventure-based learning to conduct a reflection session and is similar to group processing in the Cooperative Learning model.

Debriefing

Debriefing is arguably one of the most important aspects of experiential learning. It is the process through which the group members understand and construct meaning from the experience, and is based on the experiential learning cycle (see [Figure 7.1](#)). Debriefing is achieved through guided reflection and should result in learning being transferred to other areas of the group members' life (Sugarman *et*

al., 2000; Joplin, 1995). Debriefing should be student-centred and guided rather than driven by the facilitator (Chapman, 1995). However, this is often not what occurs in practice, where teacher-directed debriefing is more common (Estes, 2004; Brown, 2004). In this type of debrief, the students' reflection is directed by the teacher, and students are told what they have learned rather than discover what they have learned for themselves through a reflective process. A teacher-directed debrief creates a situation where the student does not learn how to learn from their own experience, but rather is told what (s)he learned (Estes and Tomb, 1995). The teacher-directed debrief process includes the following characteristics: students are allocated turns to speak, topic of discussion is determined by the teacher, the teacher paraphrases the students' response, often changing or fixing what the student said, and the talk is directed to the teacher rather than between students (Brown, 2003, 2004). In stark contrast, in the student-centred approach the teacher asks questions and encourages students to take ownership about what they learned through their participation in the activities. This demands that the teacher and student work together, that the teacher is aware of the effect of their actions on the students' response and learning and should provide students with opportunities to facilitate their own learning (Estes, 2004), and that the teacher encourages students to talk to one another and not just at the teacher. Recent research has indicated that facilitating an effective student-centred debrief session is not an easy process for pre-service physical education teachers to learn (Sutherland *et al.*, 2009a,b).

Strategies to improve reflection during debriefing

The literature in adventure-based learning proposes a number of different strategies that can be used to enhance the quality of the reflection during the debriefing sessions (Frank, 2004; Gass and Stevens, 2007; Luckner and Nadler, 1997; Panicucci, 2007). The following list is based on strategies from the literature and my own experience in facilitating and teaching adventure-based learning. I feel that these strategies are the most appropriate for use in Cooperative Learning to promote a physical and emotional environment conducive to introspective discussion.

- Provide adequate time in the lesson to conduct a processing session. As the literature has shown, group processing is often forsaken for other components of Cooperative Learning.
- Use a group structure that promotes face-to-face interaction where all students can see and hear everything. A large circle with the teacher as part of the circle can be an effective structure for whole-class processing.
- Show respect for all viewpoints by implementing only one person speaking at a time. Use student names and thank them for their contribution to the discussion.
- Give students the right to pass on participation in parts of the discussion to create an emotionally safe environment for all students. Students still actively listen to the discussion.

- Encourage the use of 'I' statements rather than placing blame through 'You' statements. 'I' statements avoid the negative messages associated with 'You' messages and are more effective in promoting change without negative confrontation. Luckner and Nadler (1997) proposed three steps in creating 'I' statements that might be useful in teaching students to acquire this skill. The first step is to describe the behaviour, for instance, 'When people laugh at someone's suggestion ...'. This is followed by the person stating how they feel about the possible consequences of the behaviour, for example, 'When people laugh at someone's suggestion I am concerned ...'. Finally the consequences of the behaviour are stated, for example, 'When people laugh at someone's suggestion I am concerned that person will have their feelings hurt and not want to help the group complete the task.'
- Promote personal responsibility by having students take responsibility for their actions and not place blame on others. Do not allow the use of 'put-downs'.
- Follow the conversation that the students feel is important. Listen to what they are saying and use follow-up questions to explore this further. Avoid moving down a sequence of pre-prepared questions without listening to what the students are saying. Use the 'in-the-moment events' to drive the debrief process.
- Do not finish students' sentences or rephrase their response to meet your needs or agenda. Listen to what they are saying, as it is clearly very important to them.
- Realize there is not only one correct answer. Do not steer students to 'the answer' that you are looking for. Rather, be open to different possibilities and explore these further as they arise.
- Use silence to give less vocal students a chance to enter the conversation.
- If an issue is not dealt with it will come back with a vengeance. Avoiding or ignoring issues may be the path of least resistance at the time, but the issue(s) will continue to fester and will be more powerful when they resurface.
- Operate within the time constraints of a class period. It is advisable for groups or teachers to work on one issue at a time and move on to a subsequent issue if time allows. Addressing more than one issue could result in sacrificing the last phase of the experiential learning cycle because of time constraints. Applying is arguably the most important phase in debriefing, as it is here that students understand how their learning can be transferred beyond the task or group.
- Provide an opportunity for ALL students to contribute to the discussion, not just those who always speak, the leaders, or those who are the loudest. If students feel that their voice is valued and respected then they are more likely to engage fully in the discussion.
- Engage in active listening when students are speaking. Modelling and teaching this skill to all students will help to create an environment that is more respectful and engaging for all.

- Establish group norms for the behaviour that is acceptable during debriefing. With elementary age students, group norms can be established using the five-finger contract. For secondary age students the full-value contract can be used to establish group norms.
- Use the funnelling technique (Priest and Gass, 1997) during debriefing. This technique guides participants through a series of steps that reproduce how individuals make cognitive connections between what happened in the experience and what it means to them. Priest and Gass identified six ‘filters’ or categories of questions to aid in the experiential learning process: review, recall and remember, affect and effect, summation, application and commitment (illustrated in Table 7.3).

These strategies can be employed in whole-class or small-group situations, and when used consistently will enhance the effectiveness of the reflection strategies used in both debriefing and group processing.

Table 7.2 Key terms

Term	Description
‘I’ statements	‘I’ statements allow an individual to communicate a message in a non-threatening manner.
Put-downs	Statements that are used with the intention of causing harm or pain to others.
Five-finger contract	In this contract each finger represents a group behaviour that will help to establish a safe and respectful environment as follows (Frank, 2002, p. 82): • Pinky (little) finger represents <i>Safety</i> (physical and emotional) as it is the smallest and most vulnerable • Ring finger represents <i>Commitment</i> – that is, a willingness to let things go and not hold on to grudges • Middle finger represents awareness of <i>Put-downs</i> • Pointer (index) finger represents <i>Taking responsibility</i> for actions instead of placing blame • thumb represents an agreement to <i>Work towards group goals</i>.
Full-value contract	According to Panicucci (2007, p. 42), the full-value contract asks the group: • to understand and create safe and respectful behavioural norms under which it will operate • to commit to those norms • to accept a shared responsibility for the maintenance of those norms.
Isomorphically framing	Using equivalent structures to create current and future relevance for participants. For a more detailed explanation see Priest and Gass, 2005, pp. 215–20.

Table 7.3 Stages of funnelling

<i>Filter</i>	<i>Examples of questions</i>
Review – ask the group to describe an aspect of the experience	Let's talk about communication. Using a thumbs-up, thumbs-middle, thumbs-down please show us how well you think the group communicated in today's activity.
Recall and remember – ask the individuals to identify an incident from the experience that relates to the issue/topic.	Do you remember a time where communication (or lack of communication, or miscommunication) was present in the activity?
Affect and effect – assess the influence of the event on each individual	How did this (event) make you feel? How did this emotion affect the group? What control did this event have over the group's ability to complete the task?
Summation – individuals summarize what they have learned about the issue	What did you learn from all of this? Can you summarize what you have learned from our discussion?
Application – individuals apply their new learning to real-life situations	Do you see a connection between what you have learned and your relationship with your friends or family? Can you apply this to school?
Commitment – urges individuals to look toward changing their behaviour in future situations	What will you do differently next time? How can you commit to change?

Sunday Afternoon Drive debrief model

My colleagues and I have been researching the use of adventure-based learning within physical education and physical education teacher education for the past few years (Stuhr *et al.*, 2010; Sutherland *et al.*, 2009a,b). As a result of this research, along with Paul Stuhr and James Ressler, I have conceptualized a variation on the experiential learning cycle for novice teachers in adventure-based learning who work within the time constraints of a school lesson. In our situations the novices are pre-service physical education teachers and in-service physical education teachers. Our work has focused on providing novice facilitators with specific tools and strategies to allow them to lead a meaningful debrief. The result is the Sunday Afternoon Drive debrief model (Figure 7.2). The facilitator/teacher begins the drive with ideas for the final destination based on the lesson plan, but without a set route of how to arrive there. The conversation can take many different routes to reach the final destination, and the teacher follows the various rhythms, feelings, power and aesthetics of the road (i.e., the students) as they negotiate the journey. The final destination in this model is the application (transfer) of learning to other situations in students' lives.

During the journey the *Facilitator as Co-pilot* represents the facilitator's role in the discussion. The facilitator should have some pre-planned questions for debriefing which are based on the objective(s) of the lesson or activity, the

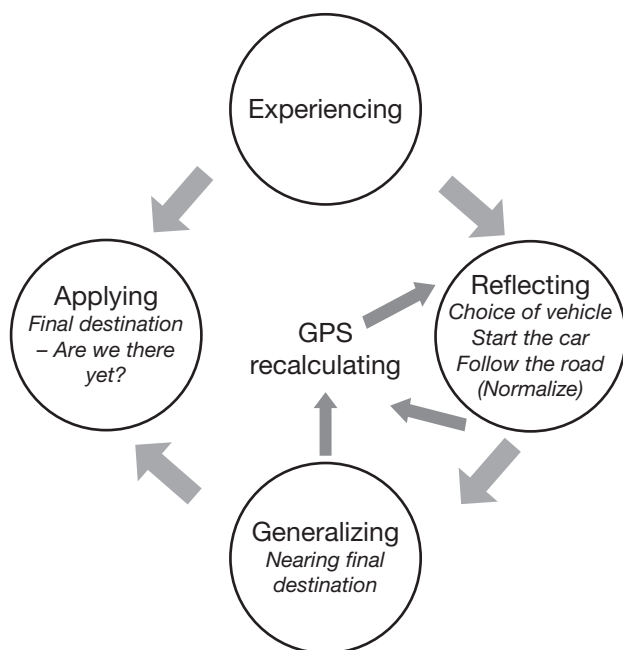


Figure 7.2 Sunday Afternoon Drive debrief model.

Source: Sutherland *et al.*, in press

specific focus of the activity, the group dynamics of the class, and what has occurred before that may need to be covered again. These questions are designed to be used merely as a back-up plan in case the conversation needs some direction or redirection.

Choice of Vehicle for the drive alludes to the difference between using a motorbike, sports car, mini-van or bus. The choice can have an impact on student participation in the discussion. Initially we recommend using a sports car or small mini-van (small groups) as the vehicle of choice, as it creates a more emotionally safe venue for students to engage in the initial conversation. Once a group or class becomes more comfortable working with each other and have established some emotional safety then different vehicles can be used based on the group dynamics and the objectives of the lesson.

To initiate the journey the teacher must *Start the Car* by providing the group with an initial debrief strategy. This is an interesting and engaging method of providing the group with a tool to initiate reflecting on the experience and is an alternative to asking the group ‘what happened?’ The strategies range in complexity from a ‘Quick Whip’ (where everyone provides one word to describe the experience) to an ‘Album Playlist’ (where a small group of students create an album title and song playlist that represents their experience). For additional strategies see Cain *et al.* (2008), Frank (2004) and Luckner and Nadler (1997).

Once the journey has begun the facilitator chooses a road to take based on the student responses during the initial debrief strategy. We call this part of the model *Follow the Road*. It is important for facilitators to learn to recognize which roads (comments) have the potential to lead to a powerful discussion. Having chosen a road, it is important to *normalize* the road by asking how it may relate to group members. For example during the *Start the Car* activity, a few students comment that the activity was frustrating. The facilitator recognizes the potentially powerful discussion the road of frustration could lead to and asks how many of the students were frustrated during part or all of the activity. This action helps the facilitator to see how many of the group felt frustrated and thus determine if this would be a good route for the drive. Asking this question also prompts students to think of situations in the activity that proved to be frustrating, which can enhance subsequent discussion. When a group embarks on the journey down a road that has the potential for a powerful discussion, it can be taken all the way to the final destination (i.e., through to the application phase of the experiential learning cycle).

Obviously there will be times when the group encounters a road-block in the conversation (e.g., students no longer want to talk about frustration or the responses are shallow and do not provide for further elaboration) and results in the need for a change in direction. We call this *GPS Recalculating*. If this situation arises the facilitator needs to recalculate the route for the journey, either based on other student responses during the *Start the Car*, or if that is not viable then using one of their pre-prepared questions. With this strategy it is important to understand that it is better to change routes than keep following the same road if the discussion is not productive. The key is that the new route still reaches the final destination, just in a different way.

Nearing Final Destination is the phase in the model that is related to the generalization of the experiential learning. Students gain a deeper understanding of the strategies related to the issue being discussed (i.e., the road being followed) that were used in the lesson that allowed the group to be successful. It can also allow students to see what strategies hindered their progress. To prepare for reaching the final destination, the facilitator steers the conversation to help students to think about the specific strategies that worked or didn't work and why. This phase of the model provides the road-map for the final part of the journey. For example, if we continue down the road of frustration the *Nearing Final Destination* phase would guide students to consider strategies (encouragement, rethinking the problem, better communication, enhanced cooperation and so on) that allowed them to work through their frustration to complete the activity successfully. Conversely the facilitator would also guide the students to reflect on strategies or behaviours related to frustration (checking out of the activity, taking frustration out on group members, negative comments, sabotaging the group's efforts and so on) that hindered their progress in the activity.

Final Destination – Are We There Yet? This is the question that young (and sometimes not so young) children ask on car journeys and is a wonderful analogy for the concept of transfer in experiential learning. If the *Final Destination* (the application or transfer of learning to other situations in students' lives) does not occur then we are not there yet! We believe this to be the most important phase of

debriefing; without it the transfer of learning has not occurred. During this phase facilitators help the students understand how to apply their learning to other areas of their lives. When teaching this model to our pre-service physical education teachers we share a personal story of how the strategies that were discussed in the *Nearing Final Destination* phase have been used in an area of our own lives. For new facilitators this story can be pre-prepared and then shaped based on the specific strategies the students discuss. In our adventure-based learning courses, the use of this strategy during the *Final Destination* has provided the impetus for very insightful and introspective conversations about transfer that have run the gamut of sports, family relationships, military service, academics, coaching, teaching and personal relationships. Having students share how they will apply their learning to other areas of their lives during the debrief session provides the answer to the age-old question on car journeys – ‘Are we there yet?’ ‘Yes, we have arrived!’

While the Sunday Afternoon Drive model was developed from our research to assist pre-service physical education teachers to facilitate a student-centred debrief within the time constraints of a physical education lesson, application of the model in group processing is clear. The model lends itself best to whole-class processing where the teacher is able to guide the conversation with all students to reach the final destination (transfer of learning to other situations in students’ lives). However, if modelled appropriately and used consistently with students, the Sunday Afternoon Drive is a process that students can learn to use to facilitate their own small-group processing.

Conclusion

Group processing is one of the five principles of the Cooperative Learning model and when conducted well has positive benefits for both individuals and groups. However, it is the principle that is most often sacrificed as a result of time limitations. Cooperative Learning within physical education must include a structured group processing session. Without incorporating group processing the full benefit of Cooperative Learning is diminished. As with adventure-based learning and experiential learning, within Cooperative Learning the process of a critical reflection is paramount to fostering students’ understanding and transfer of their learning to other areas of their lives. Drawing from adventure-based learning this chapter has provided specific strategies and a structured framework, in the form of the Sunday Afternoon Drive debrief model (Sutherland *et al.*, in press), to help teachers incorporate a meaningful group processing session in Cooperative Learning.

Websites for further resources

<http://reviewing.co.uk/>

<http://www.pa.org/>

<http://wilderdom.com/>

<http://www.aee.org/>

References

- Antil, L.R., Jenkins, J.R., Wayne, S.K. and Vadasy, P.F. (1998). Cooperative Learning: prevalence, conceptualizations, and the relation between research and practice. *American Educational Research Journal* 35: 419–54.
- Archer-Kath, J., Johnson, D.W. and Johnson, R. (1994). Individual versus group feedback in cooperative groups. *Journal of Social Psychology* 134: 681–94.
- Beard, C. and Wilson, J. (2002). *The power of experiential learning*. London: Kogan Page.
- Brown, M. (2003). Paraphrases and summaries: a means of clarification or a vehicle for articulating a preferred version of student accounts? *Australian Journal of Outdoor Education* 7(2): 25–35.
- Brown, M. (2004). ‘Let’s go round the circle’: how verbal facilitation can function as a means of direct instruction. *Journal of Experiential Education* 27(2): 161–75.
- Cain, J., Cummings, M. and Stanchfield J. (2008). *A teachable moment: a facilitator’s guide to activities for processing, debriefing, reviewing and reflection*. Dubuque, IA: Kendall Hunt Publishing.
- Casey, A. and Dyson, B. (2009). The implementation of models-based practice in physical education through action research. *European Physical Education Review* 15: 175–99.
- Casey, A., Dyson, B. and Campbell, A. (2009). Action research in physical education: focusing beyond myself through Cooperative Learning. *Educational Action Research* 17: 407–23.
- Chapman, S. (1995). What is the question? In K. Warren, M. Sakofs and J. Hunt, Jr. (eds), *The theory of experiential education*, 3rd edn, 236–39. Dubuque, IA: Kendall/Hunt.
- Cohen, E. (1994). *Designing groupwork: strategies for the heterogeneous classroom*. New York: Teachers College Press.
- Cosgriff, M. (2000). Walking our talk: adventure based learning and physical education. *Journal of Physical Education New Zealand* 33(2): 89–98.
- Dewey, J. (1938). *Experience and education*. New York: Collier Books.
- Dyson, B. (2001). Cooperative Learning in an elementary physical education program. *Journal of Teaching in Physical Education* 20: 264–81.
- Dyson, B. (2002). The implementation of Cooperative Learning in an elementary physical education program. *Journal of Teaching in Physical Education* 22: 69–85.
- Dyson, B.P., Linehan Rhodes, N. and Hastie, P.A. (2010). The ecology of Cooperative Learning in elementary school physical education classes. *Journal of Teaching in Physical Education* 29: 113–30.
- Estes, C. (2004). Promoting student-centered learning in experiential education. *Journal of Experiential Education* 27(2): 141–60.
- Estes, G.A. and Tomb, S. (1995). Is cheese food really food? A.k.a. some conscious alternatives to overprocessing experience. Paper presented at the International Conference on Outdoor Recreation and Education, Ithaca, NY, 26–28 October. ERIC Document Reproduction Service no. ED404080.
- Frank, L. (2004). *Journey toward the caring classroom: using adventure to create community in the classroom*. Oklahoma City, OK: Wood ‘N’ Barnes Publishing.
- Gass, M.A. and Stevens, C.A. (2007). Facilitating the adventure process. In D. Prouty, J. Panicucci and R. Collinson (eds), *Adventure education: theory and applications*, 101–23. Champaign, IL: Human Kinetics.
- Johnson, D.W. and Johnson, R.T. (1989). Cooperation and competition: theory and research. Edina, MN: Interaction Book Company.
- Johnson, D.W. and Johnson, R.T. (1994). Learning together. In S. Sharan (ed.), *Handbook of Cooperative Learning methods*, 51–81. Westport, CT: Greenwood Press.

- Johnson, D.W. and Johnson, R.T. (1999). *Learning together and alone: cooperative, competitive and individualistic learning*, 5th edn. Boston, MA: Allyn and Bacon.
- Johnson, D.W. and Johnson, F.P. (2009a). *Joining together: group theory and group skills*, 10th edn. Upper Saddle River, NJ: Pearson Education.
- Johnson, D.W. and Johnson, R.T. (2009b). An educational psychology success story: social interdependence theory and Cooperative Learning. *Educational Researcher* 38: 365–79. DOI: 10.3102/0013189X09339057.
- Johnson, D.W., Johnson, R.T. and Johnson Holubec, E. (1993). *Circles of learning: cooperation in the classroom*, 4th edn. Edina, MN: Interaction Book Company.
- Johnson, D.W., Johnson, R., Stanne, M. and Garibaldi, A. (1990). The impact of leader and member group processing on achievement in cooperative groups. *Journal of Social Psychology* 130: 507–16.
- Joplin, L. (1995). On defining experiential education. In K. Warren, M. Sakofs and J.S. Hunt, Jr. (eds), *The theory of experiential education*, 15–22. Boulder, CO: Association for Experiential Education.
- Kagan, S. (1994). *Cooperative Learning*, 2nd edn. San Juan Capistrano, CA: Kagan Cooperative Learning.
- Kolb, D.A. (1984). *Experiential learning*. Englewood Cliffs, NJ: Prentice-Hall.
- Luckner, J.L. and Nadler, R.S. (1997). *Processing the experience: strategies to enhance and generalize learning*, 2nd edn. Dubuque, IA: Kendall Hunt Publishing.
- National Association for Sport and Physical Education (2004). *Moving into the future: national standards for physical education*, 2nd edn. New York: McGraw-Hill.
- Panicucci, J. (2007). Cornerstones of adventure education. In D. Prouty, J. Panicucci and R. Collinson (eds), *Adventure education: theory and applications*, 33–48. Champaign, IL: Human Kinetics.
- Pfeiffer, J.W. and Jones, J.E. (1980). *The 1980 annual handbook for group facilitators*. San Diego: University Associates.
- Priest, S. (1990). The semantics of adventure programming. In J.C. Miles and S. Priest (eds), *Adventure programming*, 111–14. State College, PA: Venture.
- Priest, S. and Gass, M.A. (1997). *Effective leadership in adventure programming*. Champaign, IL: Human Kinetics
- Putnam, J., Rynders, J., Johnson, D.W. and Johnson, R. (1989). Collaborative skill instruction for promoting positive interactions between mentally handicapped and nonhandicapped children. *Exceptional Children* 55: 550–57.
- Strahm, M. (2007). Cooperative Learning: group processing and students needs for self-worth and belonging. *Alberta Journal of Educational Research* 53(1): 63–76.
- Stuhr, P.T., Sutherland, S., Lorson, K., Ressler, J. and Psimopoulos, C. (2010). A debrief model for adventure-based learning [Abstract]. *Research Quarterly for Exercise and Sport* 81(1): A-72.
- Sugarman, D., Doherty, K., Garvey, D. and Gass, M. (2000). *Reflective learning: theory and practice*. Dubuque, IA: Kendall Hunt Publishing.
- Sutherland, S., Ressler, J. and Stuhr, P.T. (2009a). Adventure-based learning and reflection: the journey of one cohort of teacher candidates. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA, 13–17 April.
- Sutherland, S., Ressler, J., Stuhr, P.T. and Psimopoulos, C. (2009b). Understanding the debrief process in adventure-based learning [Abstract]. *Research Quarterly for Exercise and Sport* 80(1): A-78.
- Sutherland, S., Stuhr, P.T. and Ressler, J. (in press). The Sunday Afternoon Drive debrief model. In *Conference proceedings, world conference on physical education and sport: challenges and future directions*.

- Villa, R.A., Thousand, J.S. and Nevin, A.I. (2010). *Collaborating with students in instruction and decision making: the untapped resource*. Thousand Oaks, CA: Corwin.
- Yager, S., Johnson, D.W. and Johnson, R. (1986). Oral discussion, group-to-individual transfer, and achievement in Cooperative Learning groups. *Journal of Educational Psychology* 77: 60–6.