

ASSESSMENT IN OUTDOOR EDUCATION

by

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ABSTRACT

This thesis reports on a qualitative study of the assessment practices in an outdoor education program at an independent school in Ontario. This thesis focuses on the experiences of students with assessment in the outdoor education context, including the range of assessment practices experienced by the students, the students' perceptions of assessment, and the impacts of assessment on the students' experiences in the outdoor education program.

This study was conducted from October to December of 2008. Using a case study research design, data were collected through observations of class activities, interviews with teachers and students, and assessment documents and student journals. The study found that a wide range of assessment practices were used by the teachers in the study, with an emphasis on student-centered assessment practices such as self assessment, peer assessment, group debriefing, and authentic assessment. These assessment practices fostered a culture of assessment that students perceived to be fair and supportive of their learning. The findings of the study indicate that these types of assessments helped to create a community of learners within the classroom, encouraged the development of self-confidence among students, and promoted transfer of learning. The conclusions of the study suggest that the student-centered assessment practices used in this outdoor education program can provide a model for teachers aiming to develop a positive culture of assessment in their classrooms.

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CHAPTER ONE: INTRODUCTION

Context of the Study

Lessons from the land are not so much about the journey itself, although that is where real education begins, but about reflecting, revisiting, and rediscovering patterns by gradually sifting and sorting the experience. Such is the case with all meaningful learning. (Raffan, 2001, pp. 104-105)

James Raffan, in his reflections on wilderness, describes how learning in the outdoors is not only a product of the experience itself, but of the reflection and introspection that occurs afterwards. His description resonates with me, because what I have learned through my outdoor experiences has profoundly affected me as a person, even though the meanings of my experiences were not always clear at the time.

My journey in outdoor education began on canoe trips in provincial parks with my family. My memories of these trips are vague and fuzzy, and I think that most have been blocked from my mind. Of those moments I do recall, many are of arguing with my siblings, struggling through muddy portages with the promise of *s'mores*¹ as a bribe, and endless hours of half-heartedly singing show tunes to pass the time paddling. In retrospect, I am able to admire my parents for the enthusiasm and determination that must have been required to equip five young children for the outdoors and keep them entertained and relatively happy throughout rain, mosquitoes and the other challenges associated with the Canadian wilderness. While I may not have liked those trips at the time, they nonetheless played an integral part in my relationship with the outdoors. Canoe tripping was something that one did, every year, without fail. It was simply a part of life, as inevitable as the beginning of the school year or the arrival of a birthday.

¹ Roasted marshmallows and chocolate squeezed between two graham crackers – a classic campfire treat.

As I grew up, those trips with my family were replaced by experiences at YMCA summer camps, first as a camper and later as a counselor. Just as trips with my family shaped my understanding of the outdoors, so too did working at a summer camp. The outdoors became a place where I could learn more about myself, and challenge myself to be a better person. It also presented a unique opportunity to interact with other people in a closed environment that necessitated cooperation. My experience at summer camp was the catalyst for my research into the environmental concerns associated with residential camping for my undergraduate thesis at McMaster University. This topic allowed me to travel to different residential camps and speak to counselors about their experiences in camping and how those experiences impacted their understanding of nature and the outdoors. By examining outdoor experiences through a new lens, I found myself looking beyond my own personal experience to try to understand how diverse and significant the impacts were for others. After graduating from university I took what, for many camp counselors, has become the next logical step: I enrolled in a Bachelor of Education program. The suite of courses I completed at Lakehead University introduced me to new geography, new people, and new ideas about outdoor education. My new teaching degree opened the door to a job with a particular school board program that offered school credits to students for participation in canoe trips.

My experiences in the outdoors have been diverse, but there has been a common thread running throughout of personal challenge and discovery. This has been both internally motivated and externally imposed, through my own personal drive as well as the expectations of the programs in which I have participated. One of the reasons that I have continued to pursue outdoor education is the degree to which I have felt successful

in my endeavours in the past. Facing a challenge and overcoming it, whether physical, emotional or interpersonal, provides me with a sense of satisfaction and accomplishment. I derive much of my self-efficacy from my experiences in the outdoors. As I began to investigate outdoor education from an academic perspective as a part of my Masters in Education program, I began to question how I arrived at this sense of self-efficacy. What was it about my outdoor experiences that left me feeling proud of myself? This question in turn made me reflect on the students I have taught over the years in outdoor education, and question how my actions and practices might have impacted their sense of self. Working in a credit-based program through the school board, I was introduced to the extent to which assessment is integrated into the practice of outdoor education. Through my academic courses and personal reading, I began to realize that many ‘seamless’ practices of assessment that are commonplace in outdoor education contexts reflect the current trends in assessment research and are strongly supported by empirical literature on assessment. It became important to me to investigate this idea further, by examining how assessment practices are integrated into outdoor education programs, and how they impact the students who participate in outdoor education programs.

Rationale

One of the gaps in outdoor education (OE) literature is the lack of research on OE within the school system. Much of the research is focused on summer programs, such as Outward Bound or the National Outdoor Leadership School, or on teaching environmental science or geography through an outdoor context. Outdoor education in the Ontario public school system is usually incorporated into an integrated course that provides the opportunity for students to receive three or four high school credits in

different domains (i.e. geography, physical education, environmental science) for a semester long program, or as an adapted physical education credit. The difference between these manifestations of outdoor education and the Outward Bound experience, for example, is the assignment of a final grade upon completion of the program. This means that different types of assessment methods must be used, since teachers must concomitantly base their courses on curriculum requirements as well as outdoor principles, resulting in a different, more formal assessment framework than is typically used in outdoor recreation. In these school-based courses students are formally assessed not only on practical skills, but also on affective objectives such as cooperation. When students are being assessed on affective objectives, such as cooperation, initiative, personal growth, and leadership, it is especially important to be aware of the impact of assessment.

Research on assessment has shown that assessment techniques, grading, and feedback have the potential to impact not only the students' learning processes, but their affective responses as well, as seen through motivation and self-concept (Brookhart, Walsh, & Zientarski, 2006; Harlen & Deakin Crick, 2003). Research on outdoor education shows that outdoor experiences also impact the affective domain (Hattie, Marsh, Neill, & Richards, 1997). A unique situation arises then, when we combine formal assessment and outdoor education. Both have the potential to impact students' affective experiences in very different ways. It is worth exploring this situation in order to learn more about how assessment in outdoor education impacts the affective domain of students. There are potential implications for both fields of research, as well as for outdoor education practice.

Finally, the paucity of Canadian research on OE is surprising to me, given the role that the wilderness plays in the stereotypical Canadian ideal. In his reflection on Australian outdoor education, Brookes (2002) acknowledges the importance of local social and geographical contexts in developing unique outdoor curricula, distinct by region. Canada certainly has possibilities for unique and distinct outdoor curricula, but there needs to be a basis in Canadian research for these to be developed.

There is a need for research on understanding how students perceive assessment practices in order to generate appropriate, effective assessment tools, and because students' responses to assessment impacts their learning. There is also a need for research in outdoor education to understand how the practices of outdoor education are related to the learning expectations, and which aspects of practice are effective in promoting the achievement of these goals. This is a broad topic with many questions, and cannot simply be addressed adequately by one study; nonetheless the examination of the student perspective on assessment will add a unique and often ignored perspective. Too, there is a need for research about Canadian outdoor education in order to distinguish the unique Canadian perspective on the outdoors. It is my intent, through this formal study, to contribute to the gaps in the literature on these topics, and to provide insight into how outdoor educators might alter their practice to be more aware of the affective response of students.

Purpose of the Study

The purpose of this research is to describe (1) the assessment practices currently experienced by secondary students in OE programs and (2) the ways in which particular assessment, grading, and feedback practices impact students' descriptions of the lived OE

experience. My main research question is: How do students describe the impact of assessment practices on their OE experience? In order to fully describe the ways in which enacted assessment practices support or impede the OE experience of students, I will seek answers to the following questions:

- 1) What is the range of assessment strategies experienced by students in an Ontario secondary level OE program?
- 2) Which types of assessments do students identify as meaningful and why?
- 3) In what ways do students believe assessment, evaluation, and grading contributes to or impedes their overall OE experience?

Key Terms

I will provide the reader with some definitions of key terms used in this thesis. I will begin by explaining how I intend to use the terms ‘assessment’ and ‘outdoor education’ in the context of this thesis, and then provide a glossary of assessment terminology to clarify for the reader.

Assessment, in the current educational climate, is a buzzword with a variety of interpretations. Often paired with its sibling ‘evaluation’, assessment has multiple meanings dependent on context. In this paper, I will use assessment to refer to the process of collecting information about a student’s learning, as suggested by the Ontario Ministry of Education Program Planning and Assessment curriculum document (2000). This would include everything from the practice of formal evaluation, such as testing, to the day-to-day practice of observing students in the classroom and making anecdotal notes. Feedback given to students, both informal oral feedback and written feedback would also fall under this definition of assessment.

Outdoor education is a broad term that encompasses a number of smaller fields, such as environmental education and adventure education, and overlaps with others, such as experiential education. In this paper I will use the term ‘outdoor education’ to refer to any educational process that occurs in the outdoors that contains an element of personal development. Thus a summer camp leadership development program would fall under this definition of outdoor education, but a field component of a biology course where the focus was collecting samples would not.

Table 1 provides the reader with some definitions of different types of assessment that are relevant to this thesis.

Term	Definition
Authentic/performance assessment	A form of assessment where the student must apply his or her skills and knowledge in a real life context.
Peer assessment	The process of commenting on the performance of a classmate, either formally or informally.
Practical/skills assessment	A form of assessment where a student must successfully demonstrate a physical skill.
Self assessment	Critical reflection on one’s performance, learning process, or growth.
Group debrief ²	A group discussion of an experience or event, focused on making sense of the experience and clarifying the learning that occurred.
Paper and pencil testing	Written tests of knowledge, evaluated by the teacher.

Table 1: Types of assessment

Overview of the Thesis

This thesis is divided into six chapters. This chapter introduced the rationale and context for the study, as well as described the purpose and the research questions driving

² Although not grammatically correct, in outdoor education, debriefing sessions are commonly referred to as ‘debriefs’.

the inquiry. Chapter 2 explains the theoretical framework used to inform data collection, analysis, and interpretation, and presents a critical review of relevant literature on the topics of assessment and outdoor education. Chapter 3 describes the methodological framework, including the processes of data collection and analysis. Chapter 4 is a presentation of the data collected over the course of this study. Chapter 5 is a discussion of the themes emerging from the data, with reference to the theoretical framework and relevant literature. Finally, Chapter 6 summarizes the findings of the study, explains the limitations and significance of the study, and discusses implications for practice and for further research.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Introduction

There are several factors to consider when exploring the impact of assessment on students in outdoor education. The purpose of assessing students impacts the ways in which assessment is carried out and how students perceive it. In this literature review I will describe and contrast traditional with alternative assessment purposes and practices, in order to provide the reader with an understanding of the variety of possible assessment paradigms. I will then review the literature on the impact of assessment on students, and the current state of assessment in outdoor education in order to set the context for my own research. Finally I will present the theoretical framework that guided my data collection and analysis.

Traditional Assessment

In this section I will examine the goals of traditional assessment, the underlying philosophy, the major issues in traditional assessment, how assessment results are used, and some of the criticisms of traditional assessment. In theory, the basic purpose of assessment is to measure whether or not learning has taken place (Fiddler, Marienau, & Whitaker, 2006). Ralph Tyler, an early curriculum theorist, articulated the purpose of assessment as a “process for finding out how far the learning experiences as developed and organized are actually producing the desired results” (Tyler, 1949, p. 105). Both of these definitions of the goals of assessment are somewhat idealized and do not suggest a mechanism for how assessment actually takes place. In order to understand how these goals are manifested, we must look to the ideas about knowledge and learning.

An assessment paradigm is a framework that is representative of underlying assumptions about the nature of knowledge and learning. Traditional assessment practices are rooted in the behaviourist perspective of learning. This perspective on learning is based on the idea that learning is a process of accumulating knowledge and information in discrete pieces, with limited transfer or synthesis (Shepard, 2000). Shepard (2000) argues that assessment under this paradigm is aimed at determining if students have retained the information given to them by their teachers. The main consideration in designing assessment tools under this perspective is to ensure that the material covered is being assessed, as information retention is the primary goal.

The primary concerns in traditional assessment are ensuring validity and reliability in assessment tools (Dunn, Morgan, O'Reilly, & Parry, 2004). These concerns align with the goal of measuring and quantifying learning and knowledge accumulation. Validity in this context refers to the extent to which a tool actually measures what it is intended to measure. Reliability refers to the consistency of a tool at producing the same results. That these factors are the primary concerns in assessing students is reflective of the product of traditional assessment: the final grade. When learning is represented as a number, it is very important that the number be as valid and reliable as possible, or it lacks meaning. Traditional assessment philosophy has produced assessment tools that allow teachers to rank students against each other (norm-referenced assessment), such as a grading curve. Norm-referenced assessment can be inaccurate or unreliable in some populations, and is thus considered to be less valid than criterion-referenced assessment (Dunn et al., 2004). The shift towards criterion-referenced assessment, also known as standards-based assessment, is indicative of the need to develop more accurate

representations of students' learning than can be provided through norm-referenced assessment.

The result of the traditional assessment framework is a heavy emphasis on norm-referenced assessments used for summative evaluation of student learning (Black & Wiliam, 1998). These grades are then used to make judgments about students' abilities and potential. As Haertel and Herman (2005) observe, throughout history, assessment and evaluation have traditionally been used to sort and select students. Grades provide a basis for differentiation between students and a means of selecting the 'best' students for further learning opportunities. The use of assessment results is by external bodies, and students are not active participants in the process of assessment.

Alternative Assessment

There are a number of alternatives to traditional assessment practices. The two most prevalent alternatives are authentic assessment and assessment for learning. I will discuss the common underlying philosophy of alternatives to traditional assessment, and describe the assessment practices associated with both authentic assessment and assessment for learning.

Cognitive view of learning

While terminology may vary between each, these alternatives share a common ground in their rejection of the behaviourist perspective on learning in favour of a cognitive perspective. Under cognitive theory, "learning is an active process of mental construction and sense making" (Shepard, 2000, p. 6). Knowledge is derived from experience and is dependent on observation and experiment (Lyddon, 1995). Traditional

assessment tools, with their focus on accurately measuring information retention, are not an appropriate means for establishing whether or not learning has occurred under this learning theory, as information retention is not equivalent to integrating new information with existing knowledge.

Authentic assessment

Authentic assessment is directed towards the ability of students to apply their knowledge and skills in real-life, practical contexts (Gronlund, 2003). Literature on authentic assessment varies in describing the specific tools that educators should use. Moorcraft, Desmarais, Hogan, and Berkowitz (2000) describe how authentic assessment is particularly appropriate for outdoor education, based on their collective experience as educators. They recommend portfolios, performance assessments, and scaffolded essays as tools that challenge students to apply their learning to a particular context, especially in informal settings outside the classroom. While they support the use of these types of assessment tools, the influence of the dominant assessment paradigm is evident, because they devote a significant amount of time to discussing how to validly and reliably evaluate the products of these assessments using a criterion-referenced system aimed at producing an accurate grade. This tension between the principles of authentic assessment and the logistical demands of the education system is a common one. Suurtamm (2004) used a case study approach to examine five mathematics teachers attempting to implement authentic assessment practices into their classrooms. While the teachers were able to effectively integrate authentic assessment practices into the traditional classroom setting, they struggled with external recognition of the validity of their assessments. Indeed, in authentic assessment, while the assessment practices are aimed at assessing

students' ability to apply and transfer learning rather than measuring knowledge, there are still great concerns about producing an accurate final grade. While authentic assessment reflects the idea that learning is a process of integrating and applying new information with existing knowledge, the sorting and selecting function of traditional assessment is still at work, despite a different philosophy of learning and different assessment tools.

Assessment for learning

Assessment for learning moves beyond authentic assessment in rejecting traditional notions about assessment. The purpose of assessment *for* learning, as opposed to assessment *of* learning, is to support and enhance the learning process. This is done primarily through formative assessment. Black and Wiliam (1998) conducted a comprehensive review of the literature on formative assessment from 1988 to 1998, examining 250 studies drawn from a pool of 681. They found that formative assessment has the potential to impact learning when it is used to give feedback to students about their progress (Black & Wiliam, 1998). While formative assessment has existed within traditional assessment, it has been used primarily by teachers as a means to monitor and adjust their instruction. Black and Wiliam called for a shift in priorities of assessment, from the emphasis on summative testing towards a focus on helping the learner become an active participant through the use of formative assessment. Assessment for learning uses formative assessment as a feedback tool for students, in order to help them identify gaps between their learning and the desired level of achievement (Sadler, 1989). There are a number of principles that guide assessment for learning and differentiate it from traditional assessment, building on the idea of using formative assessment as a feedback

tool, including alignment of assessment tools with learning objectives (Rust, 2002), creating “real life” assessment tasks that relate to practical situations (Rust, 2002), empowerment of students as active participants in the assessment process (Boud & Falchikov, 2006; Stefani, 1998), using self-assessment to help students reflect on their learning (Black & Wiliam, 1998), and separating feedback from grading (Boud & Falchikov, 2006; Taras, 2002). Ultimately, the goal of assessment for learning is to teach students how to assess their own progress and develop learning goals so that they will become lifelong learners outside of the classroom (Nicol & Macfarlane-Dick, 2006).

Under the framework of assessment for learning, students and teachers must also become proficient at assessing affective variables as well as knowledge and skills. These variables include such characteristics as time management, self-awareness, motivation, and cooperation. Neumann and Forsyth (2008) studied nursing students and found that while cognitive and psychomotor learning objectives are emphasized, affective objectives are often ignored because they require “higher level teaching strategies from the instructor” (p. 248). They observed “minimal effort exerted to explore the effect of the affective domain on learning, even though it is a major component of the learning process” (Neumann & Forsyth, 2008, p. 249). Indeed, measurement of affective variables is much more common and accepted in psychology and sociology than in education. Nonetheless, affective learning objectives are integral to the practice of assessment for learning, and teachers require training in appropriate assessment techniques.

Alternatives to traditional assessment include the student as an active participant in the assessment process, instead of as the passive subject of it. Students are engaged in

the cycle of learning and assessment, and take greater responsibility for themselves and ownership of their learning as compared to within the traditional framework.

Impact of Assessment on Students

The impact of assessment on students will be greatly determined by the purpose of the assessment, type of assessment tool used and the way in which feedback is given to students. The research described above shows the diversity in purposes of assessment, from measuring and quantifying knowledge to supporting and enhancing the learning process. The majority of research on assessment measures the impact on students in terms of achievement, aligning with the dominant assessment paradigm. In this subsection I will discuss research that focuses on the affective impact of assessment, rather than the academic impact, because the focus of my research is the student experience of assessment.

Harlen and Deakin Crick (2003) conducted a systematic review of the literature based on the question “What is the evidence of the impact of summative assessment and testing on students’ motivation for learning?” (p. 178), covering research published up until 2000. They examined 9teen studies deemed to be the most relevant to the topic through a process of inclusion criteria. They defined motivation as including self-esteem, self-concept, and self-efficacy, as well as effort, interest, and attitude. They found a positive relationship between achievement and self-esteem, which was reinforced by high-stakes testing. This suggests that recognition of success in schooling is related to high self-esteem, while perceived failure, represented by low grades, is linked to low self-esteem.

Brookhart, Walsh, and Zientarski (2006) also studied the relationships between motivation, effort, and assessment by examining middle school science and social science classes in Pennsylvania. With a sample of 223 students, they used survey instruments to measure motivation and effort on traditional paper and pencil tests as well as performance assessments. One aspect of note in this study was that the researchers did not design the assessment tasks or standardize them amongst teachers, recognizing that this would impact the assessment culture that preexisted in the classroom. They found that there was little relationship between effort and achievement, but that there was a positive relationship between motivation and achievement. Moreover, motivation was strongly linked to self-efficacy. Students who believed they were capable were more motivated, and performed better on assessment tasks, both tests and performance assessments. The shortcoming of this study is that it does not address the source of students' feelings of self-efficacy, which may in turn be derived from assessment results. Combined with the study by Harlen and Deakin Crick, however, we can see the cycle of assessment results and self-concept, where high achievement results in high self-concept, which leads to greater motivation, which in turn produces higher achievement. The potential for a downward spiral is just as evident.

Tal (2005) implemented a multi-faceted approach to assessment in an environmental education course for pre-service teachers. The study consisted of 27 participants over the course of a semester. Data were collected from students' work, semi-structured interviews, and pre- and post-knowledge quizzes. She applied many of the ideas behind authentic assessment and assessment for learning, and interviewed students about their feelings on the new format for assessment; however, the use of

knowledge quizzes as a data source seems at odds with the philosophy of assessment articulated by the researcher. Moreover, these quizzes revealed little about the meaning of the students' experiences compared to their personal responses. While students responded positively to these types of assessments, many acknowledged that they struggled with the new assessment framework, and did not understand the purpose of many of the tasks, such as self-assessments. Tal observed that the students required training with new assessment types in order to garner true benefit from them, regardless of their preferences. Her work indicates that the intended impact of assessment practices may not be realized if students are not prepared for new types of assessments.

Hanrahan and Isaacs (2001) studied the responses to self- and peer-assessment of 233 university students. Using pre-constructed criteria and tasks, they asked students to engage in self- and peer-assessment of a 1500 word essay, where success in the course was contingent on completion of the assessments. As in Tal's study, there seemed to be a disconnect between the research methodology and the assessment philosophy espoused by the researchers, since the assessments were summative and did not support the learning process. They also found, like Tal, that students required training with these assessment techniques in order to benefit from them. Their research indicated that students felt that self- and peer-assessment helped them develop critical thinking skills, increased motivation, and engendered empathy for their teachers. While the development of critical thinking skills was an obvious goal of the exercise, the development of empathy was an unexpected byproduct. The students did not extend this empathy to their peers, however, as the researchers found that without a criterion-referenced framework,

students tended to assess each other punitively, as they were in competition with each other.

Most of the research on the impact of assessment uses achievement as a measurement of motivation. Anderman and Wolters (2006) argue that motivation cannot be equated to achievement, because of the presence of many other factors, such as prior knowledge and testing conditions. They comment that “students’ appraisals of whether they have achieved or made sufficient progress toward their target goals have emotional implications” (Anderman & Wolters, 2006, p. 381). This recognition of the emotional impact of self-assessment is uncommon in the literature on the impact of assessment, and is especially relevant in the context of outdoor education. They also note that affective experiences in assessment have an effect on students’ goal selection and thus their future activities. I will use this understanding of how students respond affectively in my data analysis, since repeat participation in outdoor education programs may indicate a positive experience.

Throughout the literature the affective impact of assessment is considered in terms of motivation. The research on the impact of assessment on students suggests a link between assessment and motivation, which has the potential to work for high-achieving students and against low achievers. The causality in this relationship has not been established empirically, but appears to be cyclical. Assessment practices also have unintended effects on students, and can be ineffective if students do not understand or relate to the purpose. However, Anderman and Wolters (2006) open up the possibility of other emotional impacts of assessment and how these are manifested in students’ behaviour and self-concept. This bears particular relevance to outdoor education and to

the proposed study. The embedded nature of the dominant assessment paradigm is evident in the study designs employed by researchers who espouse alternative ideas centered on affect but rely on traditional measures based on testing, making alternative paradigms such as assessment for learning all the more important.

Assessment in Outdoor Education

Research in outdoor education generally falls into two broad categories: research which is aimed at determining and analyzing the effects of participation in outdoor education, and research which is aimed at demonstrating the transfer of outdoor learning to other academic disciplines. We can draw on each of these categories in order to understand current practice in assessing outdoor learning.

In 1997, Hattie, Marsh, Neill and Richards undertook a comprehensive meta-analysis of the literature on participation in Australian Outward Bound programs (Hattie, Marsh, Neill, & Richards, 1997). Their research examined 96 studies that measured changes on 40 characteristics that the researchers grouped into the broad categories of leadership, self-concept, academic achievement, personality, interpersonal skills, and adventuresomeness. They found positive effects in all categories, both in the short and long term. The most significant effects were the gains in the affective domain, such as increased self-efficacy, which the researchers proposed was notably different from a classroom experience of comparable length. While their work analyzed effect sizes on program outcomes, Hattie et al. acknowledged the need to move away from outcome analysis towards theory and process analysis in outdoor education research. This meta-

analysis set the stage for further research into the efficacy of outdoor programming and investigation into the aspects of OE that impact the attainment of program objectives.

McKenzie (2000) built on the work of Hattie et al. by investigating how program outcomes are achieved through a review of relevant literature. This is a broadly defined topic for a review, and she does not specify inclusion criteria for studies, making it difficult to assess the validity and importance of her research. She too observed in the body of research an emphasis on measuring outcomes rather than exploring how these outcomes are reached, and concluded that much of the practice in adventure education is based on theory rather than empirical research on effective techniques. Two of the characteristics that McKenzie identifies as significant in contributing to program outcomes are the program instructor and the processing that a student undergoes to make sense of their experience. This processing is how the student relates what they learn as a result of participating in OE to their regular life. This is a key aspect of learning under the cognitive perspective of how knowledge is formed (Shepard, 2000). McKenzie notes that little research has been done to develop effective models of processing in the context of outdoor education. Those models that she does describe are heavily dependent on instructor effectiveness. The way that an instructor forms and communicates learning objectives, as well as the ways in which they give formal and informal feedback has the potential to impact the affective experience of participation in OE.

In order to determine what aspects of outdoor education promote which outcomes, Martin and Leberman (2005) conducted a longitudinal study of 157 Outward Bound participants in New Zealand, using survey questionnaires administered on the first and last days of an Outward Bound course, as well as 12 weeks post-course. This research

design allowed them to measure the lasting as well as immediate effects of participation. Their questionnaire included both quantitative and qualitative answers. The quantitative results were consistent with the findings of Hattie et al. (1997), but Martin and Leberman found that “the qualitative responses encapsulated the value and "real" meaning of these personal experiences” (p. 44). The qualitative questions addressed the immediate and long term effects on participants, and which factors (i.e. activities, events, people) caused these effects. They found that the most significant impacts were on self-awareness and self-confidence. These impacts were related to the group dynamic, the role of the instructors, and the role of the participants themselves. The relationship between increased self-confidence and the role of the participants indicates an increase in perception of self-efficacy as well, because participants felt that they themselves played a role in their own achievement. This study is particularly important because it demonstrated the availability of rich qualitative data on outdoor education, and the extent to which qualitative data can be used to explore questions that quantitative data cannot.

McKenzie (2003) examined participants in Outward Bound (OB) courses. This study sought to explore the research questions a) which course components of an OB course contribute to positive outcomes, b) which components contribute to which outcomes, c) which components negatively affect outcomes, d) how do student characteristics impact outcomes, and e) how do student characteristics affect which components impact which outcomes? The research design was a case study of 92 OB participants, and data were collected through questionnaires, interviews, and observations of group discussions. Questionnaires were comprised of both quantitative responses, where students indicated their agreement using a numerical scale, and open-ended,

qualitative questions. The components of the courses were categorized as qualities of course activities, specific course activities, the physical environment, aspects of the instructors, and aspects of the group. The study found that the course component with the greatest impact on self-awareness was the solo experience. Gains in self-esteem and self-concept were strongly linked to achieving success and perceived challenge. Also related to gains in self-esteem were responsibility, leadership tasks, learning new skills and setting and achieving goals. The study did not find conclusive results for which components were linked to increased motivation in students.

The significance of this study is that it proposes an alternative to the traditional OB process. The traditional model is very linear, consisting of a learner who is placed into prescribed physical and social environments and given a set of problem solving tasks, creating a state of adaptive dissonance, leading to mastery or competence, leading reorganization of the meaning or direction of the experience, resulting in increased orientation of the learner toward living and learning. McKenzie suggests an alternative model, where the learner brings prior motivation and individual characteristics, and interacts with the various course components of the physical and social environment, course activities, service component and the instructors. Of these components, the specific course activities lead to a state of adaptive dissonance followed by mastery, but the learner must reflect upon all components of the course experience in order for learning to occur. This reorganization reflects the findings of the study that learning in the OB process does not necessarily occur in a linear fashion, that learning is influenced by factors external to the prescribed course activities, and that critical reflection is an important component necessary for learning to take place.

Paisley, Sibthorp, Furman, and Gookin (2008) conducted a case study of participants in courses run by the National Outdoor Leadership School (NOLS). This study sought to examine the question of what course components affect student learning in outdoor education. The research was conducted with 508 participants in NOLS courses from May to August of 2005, ranging from 14 to 56 years of age. Students completed a questionnaire at the conclusion of their participation in a NOLS program, and this study asked participants to identify which of the NOLS course outcomes they learned the most about (communication, leadership, small group behaviour, judgment in the outdoors, outdoor skills and environmental awareness). Participants then answered the open-ended question: "Out of all the ways you learned about this objective, which was the most effective and why?" Data were then transcribed verbatim and analyzed manually, grouped into common themes that were categorized using the researchers' terms. It is important to note that this study represents an analysis of how students perceived that they learned, rather than a measurement of how they learned. The domains of learning that emerged were categorized by the researcher according to the source of learning, including structure-oriented mechanisms (built into the course design, such as leader-of-the-day roles), instructor-oriented (coaching, debriefing, formal classes), student-oriented (practice, interactions with others and the environment), student- and instructor-oriented (role modeling and feedback), and mechanisms arising from environmental qualities (dealing with inclement weather, immersion in the wilderness). The researchers analyzed the data in groups according to the identified NOLS learning outcome, which allowed them to make observations about how different skill types (technical and interpersonal) are learned. They observed that technical skills are

primarily learned through student-oriented and instructor-oriented mechanisms, while interpersonal skills were learned through a broader range of mechanisms.

The body of literature surrounding assessment in outdoor education is not extensive. Some of the research in this area is focused on transferring the benefits from participation in outdoor education, typically increased self-confidence and self-awareness, to other academic disciplines. For example, Bennion and Olsen (2002) reported on their experiences of teaching a combined course of writing and outdoor education with university students. They found that written critical reflection enhanced the outdoor experience, while writing about a topic which they were passionate about allowed students to improve their writing skills. This also created a product on which students could be assessed, and through which some of the less tangible objectives of outdoor education could be expressed. The gap in the literature is due to the difficulty in assessing many of the objectives of outdoor education. Content and skill objectives are easily assessed using tests and authentic assessments, but when the objectives include increasing self-confidence, leadership, or judgment, designing appropriate assessment tools becomes much more difficult, and often relies heavily on the subjective opinion of the instructor.

One of the few effective assessment techniques for examining personal growth learning objectives links to the principles and practices of assessment for learning. These implicit assessment techniques are ingrained in the practice of outdoor education through years of use, and are often employed by instructors who have little awareness of the theory behind their practice. This is a ubiquitous practice in outdoor education, where students will sit down after key activities or at the end of the day on a canoe trip, and

instructors will lead them through the critical reflection process. This is commonly referred to as ‘the debrief’, or as processing. Processing is the act of active reflection upon an experience, which allows students to “make connections between their educational experiences, real life, and future learning” (Cain, Cummings, & Stanchfield, 2005, p. 4). It is used to encourage students to attach meaning and context to their learning, and seek further application, through the act of critical reflection. In addition, this form of assessment has great potential to “facilitate learning in the affective domain” (Gabbei, 2004, p. 49). The parallel to self-assessment and the alignment of ideas in outdoor education and assessment for learning is clearly evident.

Theoretical Framework

To develop my interview questions and data analysis framework I used the concept of the affective domain defined by Krathwohl, Bloom and Masia (1964). Piaget (1947) viewed the affective domain as distinct but inseparable from the cognitive domain. He believed that all cognitive processes, those which we traditionally associate with learning and knowledge, are mediated by affective processes, such as valuing and relating. One, he argued, cannot occur without the other, thus affective processes are just as important as cognitive in the process of learning. Affective learning objectives are those which do not relate to content knowledge (the cognitive domain) or skill development (the psycho-motor domain), but rather to attitudes, beliefs and values (Martin & Briggs, 1986). For example, an affective learning objective might be the development of self-confidence, where students would begin to feel a greater sense of self worth and belief in themselves. This has the potential to impact the cognitive

domain, but is not directly a cognitive objective. Affective outcomes are clearly stated as objectives in outdoor education programs, especially adventure education where the goal is personal development through facing challenges. The most common affective objectives are the development of self-confidence and self-efficacy. Bloom's taxonomy of educational objectives (1956), based on behaviourist theories, described increasing levels of cognitive complexity. Krathwohl et al. (1964) developed a taxonomy for the affective domain which delineated the process of learning from the affective perspective. This taxonomy described a hierarchical structure for the process of internalizing values. At the lowest level is receiving, then responding, then valuing or acceptance, then organization (conceptualization of a value), and finally characterization or internalization of a value (See Figure 1).

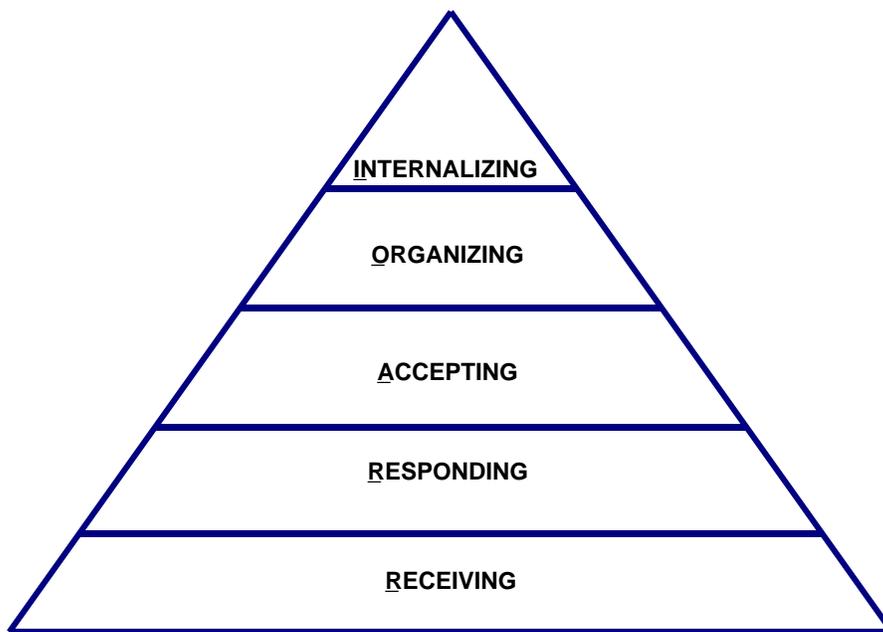


Figure 1. Taxonomy of Affective Learning. Adapted from Krathwohl et al. (1964).

As students develop, they progress through the levels described by this taxonomy, from being exposed to a new value or belief to eventually accepting and internalizing this value or belief to the extent that it influences their behaviour (Martin & Briggs, (1986). For example, let us consider the development of leadership skills in the context of a canoe trip experience. The student must first be exposed to positive leadership, through the example of the trip leader. The student then recognizes the actions of the trip leader as intended leadership strategies rather than simply natural behaviour. The student begins to realize the importance of leadership in the context of a canoe trip, as well as extending the concept to other areas of life. Also, the student must relate leadership to his or her existing moral framework, and figure out how it fits in with existing ideas about behaviour in a group. Finally, the student will have reached the highest level in the affective taxonomy when leadership has been adopted as a value to the extent where it affects the student's behaviour, for example when the student takes charge of a situation without being asked. This taxonomy allows us insight into how changes occur in our value system, much as Bloom's taxonomy allows us to determine levels of thinking and knowledge (Payne, 1974).

A major subset of the affective domain is feelings about self. Growth in outdoor education is seen as increased self-awareness, self-concept, and self-efficacy, in addition to the development of technical skills and accumulation of new knowledge. Assessment practices are designed to support the process of learning, both cognitive and affective. In analyzing my data I sought to understand how assessment practices in outdoor education impact the affective domain, and how students understand the impact of assessment on their process of personal growth.

Summary

Research in outdoor education tells us that outdoor experiences have positive effects on the affective domain, manifested as increased self-esteem. However, there is little research to demonstrate what aspects, whether physical, organizational, environmental or interpersonal, are linked to the achievement of these affective objectives. Moreover, students are assessed on these affective, somewhat intangible qualities, yet there is no research on how to assess in the affective domain, which is a significant shortcoming. Some assessment practices exist that link to the principles of assessment for learning, but instructors are often untrained in how to facilitate these techniques effectively. There is more empirical research on extra-curricular programs, such as Outward Bound, rather than on school-based programming, and many of the significant studies have taken place in Australia and New Zealand, because of the predominance of outdoor programming in those countries.

This chapter has presented an overview of the literature on assessment and outdoor education and the theoretical framework used to guide data collection and analysis. The next chapter will present the methodology used to recruit participants and collect and analyze data.

CHAPTER THREE: METHOD

Introduction

In this section I will delineate the method I used to investigate my research questions. This includes a rationale for using a qualitative approach, specifically the case study as a research strategy. I will also describe my case and participant selection, my data sources, recording and analysis methods, and the trustworthiness of this study.

Rationale for Qualitative Approach

Qualitative inquiry, according to Patton (2002), is aimed at “studying issues in depth and detail” (p. 14) in order to gain a deeper understanding of a culture, an experience, or a phenomenon. As Martin and Leberman (2002) observed in outdoor education, it is qualitative, in-depth responses that provide a richer, more detailed representation of what is really taking place. I chose to use a qualitative approach to examine my topic because I was interested in finding out more about how students make sense of their experiences, as viewed through the lens of assessment, in outdoor education. In my literature review, I described the constructivist view of learning, and the same basic concept applies to my research approach. Constructivism is based on the idea that people construct knowledge and reality internally, rather than it being an external objective truth that is transmitted from one person to another (Piaget, 1954). In taking a constructivist approach to qualitative inquiry, I am seeking to answer questions about how these students have constructed and experienced reality in the context of their participation and evaluation in outdoor education.

Case Study Research Strategy

I have chosen to employ a case study approach as a research strategy to help me fully answer my research questions. The case study approach, according to Yin (2003), “allows investigators to retain the holistic and meaningful characteristics of real-life events” (p. 2). The choice of this approach is based on the complexity of assessment paradigms. While I am primarily interested in describing the student perspective on assessment in outdoor education, it is difficult to understand this perspective without understanding the context in which it was developed. In order to be able to speak with students about their outdoor experiences, I needed to be cognizant of many influences within the school, including the explicit assessment framework in use, the culture of assessment and the culture of outdoor education program and students’ interactions with and responses to these influences. Yin (2003) suggests that a case study is an appropriate research strategy in a case such as this, where “the boundaries between phenomenon and context are not clearly evident” (p. 13).

In selecting a particular case for study, it is important to clearly define what we mean by a ‘case’. Stake (1995) observes that people and programs which can be defined as bounded systems make the best cases for study, rather than events or processes. He goes on to describe two different types of case studies, intrinsic and instrumental. Intrinsic case studies take place when the researcher has an interest in the particular case being studied, whereas instrumental case studies take place when investigating a particular case that will add to general understanding of an issue or topic (Stake, 1995). I conducted an instrumental case study, because I hoped to gain understanding of how students experience assessment in outdoor education through examining a particular

outdoor education program and its assessment framework. Because of the nature of my research questions, I used the framework to which Yin (2003) refers as an “embedded case study design” (p. 43). Within this framework, the researcher considers not only the nature of the case as a whole, but examines embedded subunits within the case. For this study I considered the assessment culture in an outdoor education program (the case), focusing on the experiences of the students (embedded subunits). The advantage of this type of research design, according to Yin (2003) is that it grounds the research and provides clear data collection objectives, whereas a more holistic approach may become too abstract, ignoring the realities of the case itself.

Data Collection

Case Selection

In selecting a case for study, Stake (1995) identifies several key criteria for determining appropriate cases for research. The most important criterion, he observes, is selecting a case that can “maximize what we can learn” (Stake, 1995, p. 4). I interpret this to mean selecting a case that has significant depth and is rich in information, which will provide me with enough opportunities to collect a significant body of data for analysis. Stake also acknowledges that case selection is almost always based to a certain extent on convenience, because of the degree of commitment required from the participants. The researcher must be able to locate a case in which the participants are willing to allow a high degree of access. Finally, according to Stake, a case need not be selected for its typicality, because case studies are not a basis for statistical generalizations, and are unlikely to provide a representation of other similar cases.

Based on these recommendations by Stake, I selected as my case the outdoor education program at Riverview College School (a pseudonym) in south eastern Ontario. Riverview College School (RCS) has a long history of emphasis on outdoor programming, and has incorporated outdoor education into the culture of the school. Currently three outdoor education courses are offered: one is compulsory, two are elective. The primary reason for selecting this case is the depth and scope of the outdoor education program. This is a program in which the school has invested heavily and to which the teachers are strongly committed. Teachers are supported by the administration, and have access to a wide range of resources, both financial and structural, which allows them to design exemplary outdoor education programs. The tradition of outdoor education in the school indicates that this is a program which has evolved over time and has well established, deep roots worthy of investigation. The integration of outdoor education into other curricular areas (i.e., a geography course) is a common manifestation of outdoor education in the current school system, and thus provides opportunities to inform other similarly structured programs in existence. Convenience and access were also determining factors in this case selection, since the school is close enough to Kingston for reasonable travel for data collection, and the teachers involved in the program are amenable to research taking place in their classrooms.

The campus is located on the shore of mid-sized lake, with an extensive waterfront, and a large wooded area. When I first arrived at RCS, the first thing that struck me was how green the campus was, from the tall trees whose branches overhang the paths and buildings, to the grassy lawns covering the ground. There are few roads running throughout the campus, as most of the traffic is on foot between the academic

buildings and the residences. The buildings are all painted in matching green and white shades, the school colours, and signs outside every building indicate the building's purpose. Soccer fields dominate large areas of land, and there always seemed to be a team practicing or playing when I was visiting. Inside the buildings the colour scheme continues, though the hallways and offices have a university feel to them, with large windows and wide hallways.

I observed and interviewed students from two different courses: grade 9 and grade 12. I will briefly explain how these two courses fit into the Riverview OE program and schedule, and how they are organized. Please see Appendix K for a three year outdoor skills plan. Courses are not semestered at RCS, so each student is enrolled in eight courses that run all year. There are five one hour periods every day, and the school runs on an eight day cycle. All outdoor education courses are all taught as integrated courses, combined with another subject area. This organization permits the teacher to have primarily double periods with his or her class. In this way, teachers are able to plan activities such as canoeing or rock climbing that would otherwise require students to take time away from their other classes to complete. The grade 9 course integrates grade 9 geography and physical education, two required courses for all first year students. Thus, every grade 9 student at RCS takes a double period of OE for the year. The grade 9 course is an introduction to outdoor education, and culminates with an overnight experience in the spring, where students can use their new canoeing, navigation, and cooking skills. They also experience the low ropes course, and are introduced to first aid and whitewater canoeing.

The grade eleven OE course is usually taken by students in grade ten, and is again a geography/physical education combination. These students expand on the canoe tripping skills they developed in grade 9 with a fall overnight experience, begin solo canoeing, and learn some winter camping skills such as skiing. The grade 12 OE course is usually taken by students in grade eleven, and is a combination of grade 12 university level kinesiology, and grade 12 recreation leadership. In this course students begin to take on a leadership role in managing the high ropes course, go on a three day winter camping trip, and complete crisis management and river rescue scenarios. Although it may be difficult to see the progression of skills based on the credits assigned, the program has been developed by teachers and administrators to be a three year skills progression, in which each course builds on the skills and knowledge of the preceding course, and introduces new types of outdoor activities (Please see Appendix K for the three year skills progression).

Outdoor education has been a part of the RCS tradition since the school's inception, and is proudly touted as one of its main touchstones. The RCS website advertises that "Riverview College School was founded on the premise that a student's education should extend beyond the classroom", indicating how prominent a role outdoor education plays in the school's programming. It was evident from the extent of the facilities and equipment available to the program that the school administration is committed to operating and maintaining a strong program.

Both teachers whom I interviewed underscored the support that they receive, both from their fellow outdoor education teachers and from school administrators. The outdoor education department operates out of a number of different locations, including the OE

office, the Guild Hut, the Outpost, and the ropes course, as well as various classrooms. The names of some of these locations may seem cryptic, but they are typical to buildings at RCS, where students are familiar with the names and use them casually in conversation. The OE office, during my visits to RCS, was in a constant state of packing and unpacking, as the teachers were waiting to move into their new office in the newly built Student Recreation Centre, but were waiting for construction delays to end. The Guild Hut is located in the centre of campus, amidst soccer fields and residences. It appears to be a small wooden cottage, and indeed on the inside has the comfortable chairs and fireplace that one might expect in a cottage. The Guild Hut is used primarily for the grade 12 OE course, and an outsider could likely determine the course content just by looking at the various objects present. A large skeleton with different coloured bones stands at the front of the classroom, overlooking the students. Various types of paddles are affixed to the walls or leaning up against them. A spinal board is stored in the rafters, and ropes are hung on pegs on the walls. The feeling of this hut is very cozy, and it is clear that the students respond to the atmosphere when they enter and drape themselves across the couches, waiting for the day's lesson to begin. The Outpost is located near the waterfront, and is the storage facility for most of the outdoor gear used in the OE program. One wall is devoted to racks of snowshoes, another to cross country skis. Stacks of large blue food barrels take up one corner, and there are often ropes or packs hanging to dry. The ropes course is located on the east edge of the campus, and is comprised of 9 high ropes elements, as well as a climbing tower. The high ropes elements are constructed from telephone poles connected by various wires, ropes, and logs, and students must attempt to navigate from one pole to another, overcoming these obstacles,

while tied into a belay system (rope and climbing harness). The climbing tower is like an indoor rock climbing wall, but located outdoors with several different climbing routes. Surrounded on three sides by trees, there is a feeling of separation from the rest of the campus. All of the gear is stored in a small shed at the ropes course for easy access, and classes will often meet at the course and conduct their entire lesson outdoors. The extent and quality of available spaces is again indicative of the place which outdoor education holds within the school culture.

Participant Selection

Participants in this study were teachers and students involved in an outdoor education program at a private school in southeastern Ontario. My initial contact with the school was made by phone and e-mail through the Head of School, who referred me to the Dean of Social Sciences (Appendix A). I forwarded a letter of information and consent forms to the Dean of Social Sciences, who distributed them to the five outdoor education teachers (Appendix B). Two of these teachers chose to participate in the study, and I contacted them by e-mail to set up an initial visit to the school. One teacher taught two sections of grade 9 OE, and the other taught two sections of grade 12 OE. Both teachers are referred to by pseudonyms in this study.

Student participants were recruited from the classes of teacher participants. In each of the four classes I gave a brief presentation introducing my research, and distributed letters of information and consent forms (Appendices C, D, and F). I also made contact with a group of students who had completed the grade 12 course the previous year. These students were volunteering as a part of a crisis management scenario. Students were asked to return the consent forms indicating if they were

interested in participation. If a student was interested in participation, then parental consent was obtained before the interview was conducted. Two grade 9 students, three current grade 12 students, and three former grade 12 students elected to participate in the study. All students who expressed interest in participating were included in the study. All students are referred to by pseudonyms in this study.

Student participants I interviewed and observed two grade 9 students and three current grade 12 students, and interviewed three former grade 12 students. All of these participants were female. The two grade 9 students, Kayla and Sarah, were in different sections of the grade 9 course taught by Mark. Kayla is an outgoing student, often yelling across the class to her friends. She was always laughing and positive during the classes that I observed, and was not afraid to try a challenge and fail, as long as she could have fun doing it. Sarah was more reserved than Kayla, and seemed to contemplate her actions before following through on them. Her peers seemed to respect her as one of the better students in the class, and she appeared to be very competent at performing outdoor skills. All three current grade 12 students were in the same section of the course taught by Jack. Deanna and Laura were close friends, and were two of the more outgoing members of the class. They usually worked together, whether in a belay team or on a group project, and often lost focus as they began to discuss other things. They were not afraid to speak up during class to offer their opinion, and were quick to give feedback to their peers. Abby was much quieter, and did not offer her thoughts as readily. When she did speak up in class, it was clear that she had thought out her response before raising her hand. She possessed a quiet self-confidence that is uncommon in teenage girls, but was evident in the way she carried herself and the way she spoke. Because I only interviewed

the three former students, but did not have the opportunity to observe them as well, I did not get to know their personalities as well as those of the other students. Jen, Denise, and Sophie were all former students of Jack's, and had enjoyed the class so much that they volunteered to return as "victims" for the crisis management scenario. All three were outgoing and well-spoken, and were clearly comfortable with themselves and were eager to speak about their outdoor education experiences.

Teacher participants I interviewed and observed two teacher participants throughout the course of my data collection. Mark is a young teacher in his fourth year working at RCS. He attended RCS as a student, and now teaches and acts as the Head of House for one of the residence buildings. He lives on campus with his wife, also a teacher, and two young daughters. Mark's outdoor education background is primarily focused on residential camps, and he describes his work at RCS as a natural extension of his summer camp experiences. He looks the part of an outdoor adventure guide, always dressed for the outdoors and prepared with his backpack of gear. I observed Mark teaching two sections of the grade 9 OE course. His summer camp experiences clearly impact his teaching style, as he begins each class with a high energy level. As students enter his classroom, he chats and jokes with them as they settle into their desks. Mark states that one of his primary goals as an OE teacher is to have each student walk into the classroom with a smile on his or her face, and his presence in the room does a lot to ensure that this happens. His classes are run in a very active manner. If students have to move from one area of campus to another, they are jogging there. Every student is involved in the activity at hand, and no one is left to sit out. Even lessons in the classroom are interrupted so that students can get out of their desks and participate in

group initiative tasks. The students respond to this high energy level set by Mark in a positive way, by acting in a relaxed, comfortable manner in the class. Students are eager to call out answers or to be the first to try an activity. What is remarkable about these classes is although they are high energy and active, they are also well organized. Students are given a handout at the beginning of class outlining the plan for the day, with the homework or reading for the next class on the handout. They can also access this handout on an online class log at any time, designed to help them catch up on missed work. While Mark identifies one of his major challenges as a teacher as organization, his classes run smoothly because the students are clear on the expectations and of the intended activities. His enthusiasm for his job is evident outside the classroom as well. Often when I arrived for an observation and met him in the OE office, he would be eager to show me a new activity or assessment that he was hoping to use in his class. I often found him working with other teachers or teaching assistants on various outdoor programs, planning how best to implement them in the classroom.

Jack has been teaching at RCS for 9 years. He has taught in a number of curriculum based outdoor education programs, both summer and school year programs. He taught an integrated semester long program in Kingston, Ontario, and helped to develop a similar program to be implemented at a different school in the same board. Jack has had a large hand in developing some of the RCS OE courses, from writing the curriculum to designing the assessments. He commands a very high degree of respect from teachers and students alike. Jack also teaches a grade 12 Leadership course, where students organize programming for the rest of the school such as intramurals and theme days. Whenever I visited RCS, Jack was always busy. He was rarely sitting and working

in the office, but always seemed to be in transit from one meeting or activity to another. Nonetheless, he always stopped to talk with students along his way, and made to sure to make time to meet with them if he couldn't answer their questions quickly. The atmosphere in Jack's classes is relaxed but focused. Students come into the classroom, chatting with each other or with Jack, but begin the day's task immediately. Jack will often put the instructions on the board for what students should be doing, and the expectation is clear that he should not have to repeat them. Once students are engaged in an activity, Jack will step back and observe, stepping in only if there is a teachable moment or a safety concern. Jack expects a high standard of effort and commitment from his students, and in turn fully commits himself to making sure they have the best experience possible in his class.

Data Collection Methods

Observations

Patton (2002) identifies two important advantages to direct observations of people and situations. The first advantage is that observation allows the researcher to understand the context of the people or organization that they are studying. Second, observations allow the researcher "to be open, discovery oriented, and inductive" (Patton, 2002, p. 262) and reduces reliance on pre-conceived notions of the setting. This is significant to this study because of my own background in outdoor education. By relying on direct observations, I am able to ground my research in the realities of the particular OE program being studied, rather than on my prior experiences. Observations were

conducted during 8 visits between October 9th and November 17th, 2008. Please see Table 1 for a log of visits and activities.

Date of visit	Activities
October 9 th	<ul style="list-style-type: none"> - initial meeting with Dean of Social Science and teacher participants - observed class 9A for two hours (canoeing evaluation) (CO9A1) - observed class 9B for two hours (canoeing evaluation) (CO9B1) - recruited participants from 9A and 9B
October 16 th	<ul style="list-style-type: none"> - observed class 12A for one hour (high ropes course) (CO12A1) - recruited participants from 12A - observed class 9A for two hours (cookout) (CO9A2)
October 17 th	<ul style="list-style-type: none"> - observed class 9B for two hours (navigation) (CO9B2) - interviewed teacher T01 for one hour T01I - observed class 12A for two hours (high ropes) (CO12A2)
October 25 th	<ul style="list-style-type: none"> - observed class 9A for two hours (navigation) (CO9A3)
October 28 th	<ul style="list-style-type: none"> - observed class 12A for two hours (high ropes course) (CO12A3) - interviewed two grade 12 students for 30 minutes (S1201I and S1202I) - interviewed teacher T02 for one hour (T02I) - observed OE staff meeting for 30 minutes - observed class 9B for two hours (navigation) (CO9B3)
October 30 th	<ul style="list-style-type: none"> - observed assistant instructor audit with class 12A for two hours (CO12A4) - observed class 9B for two hours (navigation) (CO9B4)
November 15 th	<ul style="list-style-type: none"> - observed crisis management scenario with class 12A for seven hours (CO12A5) - recruited former student participants
November 17 th	<ul style="list-style-type: none"> - observed class 12A for two hours (crisis management debrief) (CO12A6) - interviewed one former student for 20 minutes (S1301I) - interviewed one grade 12 student for 20 minutes (S1203I) - interviewed one grade 9 student for 10 minutes (S0901I)
December 4 th	<ul style="list-style-type: none"> - interviewed two former students for 30 minutes (S1302I and S1303I) - interviewed one grade 9 student for 10 minutes (S0902I)

Table 2: Field log of observations and interviews

I observed two sections of the grade 9 course, and one section of the grade 12 course. Each grade 9 class was observed during three lessons (one class on canoeing, two on navigation), and the grade 12 class was observed during four lessons (three classes on

high ropes and one on crisis management) and one day long activity, a crisis management scenario. I had intended to make a minimum of three observations of each class, but had the opportunity to observe the crisis management scenario and debrief, which was a significant authentic assessment experience for the grade 12 students. I made written notes both during and after each observation, as the weather during or location of the observations made note taking during the activity impossible. The focus of the observations was the teacher's use of assessment techniques in the class, and the students' responses to these assessment practices. According to Patton (2002), observations can enable the researcher to identify the implicit or covert practices as well as stated or official practices. Due to the ongoing nature of assessment in outdoor education, these observations allowed me to become aware of those assessment practices that occur as a part of the practice of outdoor education such as informal peer feedback, as well as the explicit or stated practices, such as testing. The classroom observations also helped me to gather information on how the courses were run and the types of activities that students participated in, which helped me to refine my interview questions.

Interviews

Interviews are a direct means of collecting information about participants related to their opinions, experiences and perceptions. When combined with observations, interviews allow the researcher to fill in gaps in understanding (Patton, 2002). I conducted semi-structured interviews with two teachers and eight students. The data collection for this study occurred during 9 visits to the school between October 9th and December 4th, 2008. The interviews with teachers were conducted during my third and fifth visits respectively. During these interviews I asked the teachers questions about

their assessment practices, the role that assessment plays in their philosophy of outdoor education, and their perceptions of their students responses to their assessment practices (see Appendix I). The student interviews were conducted slightly later in the data collection period, beginning on the fifth visit and concluding on the final visit, after I had conducted the majority of my observations. During these interviews I asked students questions about their experiences in outdoor education, their experiences with and responses to assessment in outdoor education, and their assessment preferences (see Appendices G and H).

Document Collection

Documents, according to Patton (2002) are valuable to the researcher because they provide insight into “things that cannot be observed” (p. 293). In addition, documents are a source of information about events that took place and decisions that were made before the research began, such as how a program was developed (Patton, 2002). In this study, the documents of importance take the form of assessment rubrics, course outlines, learning objectives, and marking schemes used by the teachers in the program, as well as journal entries from students. I collected assessment documents in person and via e-mail during my first visit to the school, and collected some subsequent documents that were relevant to particular activities being conducted during the lessons I was observing. Journals are a required component in every outdoor education course at this school, and I photocopied sections of students’ journals related to personal reflections or debriefs after conducting their interview.

Data Analysis

In this study, preliminary data analysis occurred during the data collection process (Patton, 2002). For example, I used information from my observations and interviews with teachers to refine my student interview questions in order to make the questions specific to the experiences of the students.

In analyzing the data from interviews, observations, and collected documents, I employed a process known as “open coding” (Patton, 2002, p. 453), where the codes emerge from the data itself rather than from a predetermined set. This is an important component of inductive analysis. Inductive analysis, according to Patton (2002), “involves discovering patterns, themes, and categories in one’s data” (p. 453). This method of analysis is helpful in reducing researcher bias, as it allows the ideas and topics that are most important to the participants to come through.

Each type of data collected required a specific type of analysis. The primary method of data collection was interviews. The interviews were audio-recorded and transcribed verbatim. Interview transcripts totaled 67 pages, 24 pages from teacher interviews and 43 pages from student interviews. To analyze the interviews, I began with the teacher interviews and coded them using low inference descriptors for recurring words or topics. I then applied the same process to the student interviews. This was an inductive approach to analyzing the interview data, as the codes emerged from the data itself, rather than from a predetermined set. The interviews and codes were then reviewed by a second coder in order to further reduce researcher bias. After initial coding of the interview, I reviewed the codes and collapsed them into categories, and finally arranged these categories into themes according to the ways in which they related to my research

questions. All quotes from interviews are referred to by the appropriate teacher or student code, followed by the letter “I”. For example, S1203I refers to the interview with grade 12 student number three.

I used a similar approach to analyze my written observations. In total, I had 51 pages of observations taken from the eight observation visits. I organized this data into the respective classes where the observations had taken place (2 grade 9 classes, 1 grade 12 class). I analyzed the observational data by coding for common behaviours, such as physical actions or verbal responses. I then compared these codes to the codes derived from the interviews, in order to group similar themes and ideas together. All observations are referred to by the code “CO”, followed by the class being observed, and the number of the observation. For example, CO9B2 would refer to the second observation of class 9B.

Finally, I organized the collected documents according to their sources, the grade 9 curriculum, the grade 12 curriculum, and student journals from each respective course. I used the curriculum documents to help inform my interview questions, and to understand the assessment framework used by the teachers in the study. I analyzed the student journal reflections in the same manner as the interview transcripts, coding for common words and topics, and collapsing those topics into categories, then relating them to the themes that had emerged from my interview data analysis. All quotes from student journals are referred to by the appropriate student code, followed by the letter “J”. For example, S0902J refers to the journal of grade 9 student number two.

It is widely acknowledged that in qualitative research, “the researcher is the instrument” (Patton, 2002, p. 14). This means that the trustworthiness of the research is

dependent on the “skill, competence, and rigour” (Patton, 2002, p. 14) of the person conducting it. In addition, the researcher must employ reflexivity, which is “rigorous self-scrutiny throughout the entire process” (McMillan & Schumacher, 2006), in order to be aware of their own biases and behaviours that might influence their findings. I employed two strategies to enhance reflexivity: a field log and journaling. My field log is a record of all observations, interviews and other interactions that took place as a part of the research process. Journaling helped me as the researcher to be aware of my biases and document how my ideas and views evolved throughout the research process. As I described in my introduction, I am passionate about the study and practice of outdoor education, but I am aware of my own experiences and their impact on my perspective. I did my best to maintain that awareness throughout the research process, and use my experience in the field as an asset in helping me understand how students are impacted by assessment in their outdoor education experiences.

CHAPTER FOUR: PRESENTATION OF THE DATA

Introduction

In this chapter I will present the data collected for this study using the methods described in Chapter Three. This chapter will be organized according to the research questions of this study. The first section will describe the range of assessment practices present at this school, from the curricular intended practices to the practices enacted by the teachers. I will use curriculum documents, the school website and interviews with teachers as data sources for this section. In the second section I will describe the assessment practices as experienced by the students, including the students' perceptions of assessment, the meaning they draw from assessment and their preferences for different assessment techniques. This data will be drawn from my classroom observations, interviews with students and teachers, and collection of student journals. Finally, I will present the ways in which students describe the impacts of assessment on their outdoor education experience, drawing on classroom observations, student interviews, and student journals.

Intended and Enacted Assessment Practices

During my observations I was able to see a variety of assessment techniques put into practice, including quizzes, self assessment, peer assessment, authentic assessment, debriefing, critical reflection, and ongoing informal feedback. I also discussed testing and examinations with teachers and students, although I was not able to observe either of these assessment tools due to the timing of my visits. Before discussing the specific assessment techniques used by these teachers, it is important to understand the goals of

the outdoor education program at RCS, as well as the goals of the teachers involved in this study.

Goals of outdoor education

The Riverview College School Outdoor Education Mission describes the overarching goals of the OE program, and says that through the OE program, RCS will:

- create an appreciation for the value of teamwork, community responsibility, self reliance and individual leadership
- develop skills allowing comfort with and safety in the natural world
- engender a sense of wonder about the environment while instilling in them a need to be stewards of the environment in a proactive fashion
- encourage a passion for lifelong learning and outdoor adventure
- utilize and enjoy the spectacular opportunities afforded by the beautiful 155 acre partially treed campus on the lakeshore and those of the surrounding area

Although there is no explicit reference to assessment in this mission statement, there are clues about the types of assessments that might be used. Lifelong learning inherently involves aspects of critical reflection and self assessment. Learning about teamwork and community responsibility suggests aspects of peer assessment. The program is clearly oriented towards experiential learning, and thus towards authentic assessment. This mission statement, while providing a general sense of the goals of the program, is not specific enough to give a picture of what individual courses or classes might actually look like. The two teachers involved in this study, Mark and Jack, had very specific ideas about the goals of the respective courses that they were instructing. Mark, as a grade 9 teacher, had a specific set of goals for his students. He was focused

on instilling an appreciation of the outdoors, and helping his students begin to think about themselves as members of a community.

Imagine we have a continuum, with me on one end, and the rest of the world on the other. Our, one of our um, overall goals in terms of enduring understanding is moving our understanding of the world from me, as a grade 9 student in a grade 9 course along that line to the we, rest of the world. Having an appreciation and broadening that perspective and moving along that line is one of the biggest things I think that we try and do. And the other is instilling this appreciation of being healthy and enjoyment of being outside. Those are the two main goals. (T01I, pp. 2-3)

Mark also spoke with me about his assessment goals, and the philosophy of assessment that he uses in his classroom.

I want them, I want each of my, and I've told them this, and each of them, we talked about our class goals, and one of them had to be that they walked in the door smiling. So if I'm doing something in terms of assessment that is getting in the way of that smile, and the dread of having to go to OE class, then I'm not achieving my goal. Certainly giving kids an idea about what they're doing well and what they can work on is an important part because then they're going to feel like a valued part of the class, and it's... So I guess that's the real purpose of assessment. (T01I, p. 10)

Mark was focused on making sure that assessment was a positive component of his teaching and his classroom atmosphere, and believed that feedback and helping students organize their learning were primary concerns.

Jack's goals for his students were more oriented towards their interpersonal skills such as communication and leadership. While he helped students to develop their outdoor living skills, this was not the focus of the course for him.

I think the number one thing is to be better people. That's it, that's probably the biggest one, is different ways of sharing your opinion, of telling someone else you don't agree with them, telling someone else they've done a good job. So, you know, working with people. (T02I, p. 4)

Jack shared Mark's philosophy in terms of the emphasis on positivity and importance of feedback.

It's good to get feedback and, and to see if you're learning... I think it's good if it is positive as much as possible. Content, it's hard to do that, it's right or it's wrong. But if you can balance right and wrong content and assessment with a lot of the good constructive assessment that I'm fortunate to be able to do when I teach, then assessment doesn't always have to be seen as something to be feared or dreaded. (T02I, pp. 8-9)

Taking together the mission statement for the OE program at RCS, as well as the ideas of Jack and Mark, we can begin to have a sense of the culture of assessment within this program as it is intended by the administration and the teachers. The ideas above represent an idealized or theoretical conception of the program and the intended assessment framework which the teachers hoped to implement in their classrooms. Based on my observations and interviews I was able to gain a sense of the enacted assessment practices, those which actually occurred.

Quizzes

Quizzes were used in the two outdoor education courses that I observed as a means of monitoring student knowledge. They were not perceived to be high stakes assessments by either the teachers or the students. Mark often used quizzes to help him determine if he needed to revisit a topic, or to see if students were grasping the main ideas of a unit.

I had both of my sections sit down and do what I called a pop quiz which was not marked, it was a "tell me what you've learned so far in geography". And I think I suggested they write down three things. That's feedback for me more than it is for them. (T01I, p. 5)

He also preferred to give smaller quizzes instead of larger tests, because he felt that they were more representative of what students were learning. I observed a quiz in one of the grade 9 classes, and the atmosphere was very relaxed. Students felt comfortable asking their questions out loud for the rest of the class to hear, and were joking with each other and with Mark before and after the quiz. When introducing this quiz on leave-no-trace camping to the class, he framed the assessment in a very positive way, describing the quiz as “an opportunity to show what you know” (CO9B2). After students had finished writing the quiz, Mark had the students pair up to go over their answers before handing in the quiz, giving them the opportunity to discuss the questions together. This made the atmosphere in the classroom even more relaxed than it had been when the students were writing.

Jack used quizzes to ensure that students were keeping on top of their factual knowledge in the Anatomy side of the grade 12 course. He said that he would “sometimes [give] just a knowledge quiz to see if they’re doing their memory work” (T02I, p. 2). One of my observations of the grade 12 class took place the day after the students had completed a quiz, and again the students were very comfortable talking about the quiz with each other and with their teacher. One student asked Jack how he had done on the quiz in front of several of his peers, clearly not concerned with others hearing the response.

Self assessment

In the grade 9 classes, self assessment was done primarily through the use of a daily participation rubric (see Appendix J), which asked students to assess their performance in five categories, attendance (punctuality), coming prepared to class,

initiative, effort, group activities and discussions, and individual skills and tasks. This was typically done at the end of class or at the end of a unit, such as canoeing. I observed both grade 9 classes completing a self assessment of their performance during the on-water canoeing unit, after their practical assessment. The students were familiar with the rubric, and needed little to no additional guidance to complete it.

In the grade 12 class, self assessment was done through what Jack called a “self-subjective assessment” (T02I, p. 4). Students would assess themselves on various categories of knowledge, inquiry, application, and communication³, and then submit this self-assessment to Jack. He would read their self-assessment, and either agree with the student’s opinions, or open a dialogue with that student if he felt that their assessment was not an accurate reflection of their performance or skills. Jack would sit down with such a student outside of class time in order to discuss the assessment and come to a consensus about the student’s mark.

Peer assessment

Peer assessment was one of the most prevalent forms of assessment on a day to day basis in both courses. In the grade 9 classes, students would formally assess each other at the conclusion of a group project or unit. They also provided ongoing informal feedback to each other frequently. For example, during the canoeing unit, Mark asked the bow paddler (in the front of the boat) to turn around and sit backwards, facing the stern paddler (in the back of the boat, responsible for steering the boat). The bow paddler would then provide feedback on the stern paddler’s strokes. This type of informal peer feedback occurred during any type of partner or group activity that required the students to complete a task, such as lighting a stove or using a GPS system. Typically, one

³ These four categories are used in the Ontario Achievement Charts.

student would attempt the task, and others would offer suggestions or corrections. The students were very comfortable doing this, and had no problem speaking up if they thought that another student could use some feedback. This was clear from the amount of discussion that happened when I observed the students engaged in these group tasks.

In the grade 12 class, the same type of informal coaching and feedback was very evident on the ropes course. Students were organized into belay teams, consisting of a climber on the high ropes element, a belayer (pulling the rope through a friction device), a backup belayer (holding the excess rope as it was pulled through by the belayer), and an anchor (tied to the belayer to provide extra weight). Each of these students had a defined role, and peer assessment was built into these roles. One student would act as ‘safety officer’, and would review the belayer’s knots and rope before the climber could begin to climb. The safety officer could correct the belayer’s problems, or ask the teacher for advice if they weren’t sure about a knot. Once the climber was on the ropes course, all students in the team would provide feedback and encouragement to help the climber navigate the element. For example, students would make generic comments, such as “You’re doing great”, as well as specific suggestions, such as “Try using your right hand instead” (CO12A1). Formal peer assessments were components of any group projects in both the grade 9 and grade 12 courses, and students would have the opportunity to provide feedback on the performance of their peers, which would be read by the teacher.

Authentic assessment

Authentic assessment, in which students are given the opportunity to use their knowledge and skills in a real life context, is central to the RCS outdoor education program and philosophy. It was used extensively in both the grade 9 and grade 12

courses, indeed the courses seemed to be designed around building the skills and knowledge that were to be used during these authentic experiences. There was a clear progression from the grade 9 course through to the grade 12 course of the complexity and significance of these assessments, from on-water canoeing assessments in grade 9 through to a three day long winter camping trip in grade 12. In both courses, the teachers expressed that the actual event is a celebration of accomplishments and planning, and that the majority of the formal assessment is done on preparation before and critical reflection after the trip.

In terms of the assessment, if we're planning a, a winter camping trip, the assessment is not 80 percent on the trip, it's 80 percent what we've done before and what we do after, and the trip is the celebration, so it should be reflecting effort and hard work. (T02I, p. 2)

The planning process is the formative side of it, and the actual overnight experience is the celebration of successful planning. They are given some opportunity to get good marks when they're there, but the summative stuff comes from a journal reflection after they've come back. (T01I, p. 9)

The major authentic assessment for the grade 9 course occurs in the spring, an overnight trip during which students are able to use the canoeing and camping skills that they have learned over the course of the year.

In the grade 12 course, there are five major events: the assistant instructor audit of the ropes course, visits from other schools to the ropes course, the crisis management scenario, the winter camping trip, and the river rescue scenario. I was able to observe the assistant instructor audit and crisis management scenario, both of which take place in the fall. The assistant instructor audit is designed to assess students' ability to safely operate a high ropes course. Teachers, teaching assistants and former students from the course

come in to observe the students open the ropes course, perform safety checks, and safely belay each other up on the course. The auditors also ask the students questions about why they chose to use particular types of equipment, or about aspects of the course design. This simulates a ropes course audit, which is a common practice in the adventure education industry. The crisis management scenario combines risk management and first aid training. It is a day long event facilitated by the grade 12 instructors and a paramedic and wilderness first aid instructor from Renfrew County. The students are bused to the North campus, an ancillary school facility that is located five minutes by car from the main RCS campus. There, they are told that a plane has crashed, and that they must deal with the ensuing situation, including locating victims, treating injuries, setting up a home base, and organizing themselves into rescue teams. The scenario lasts approximately three hours, and is debriefed immediately afterwards, and then again in class the next week.

Debriefing

Debriefing was used in both courses, although on a much larger scale in the grade 12 course. In the grade 9 course, debriefing was mostly used after small initiative games or activities, and was directed by Mark. Mark would use a series of questions to help the students draw meaning out of the activity. I observed an initiative task with one of the grade 9 classes during which students were required to pass a large coffee can around a circle without using their hands. After students had mastered this task, they attempted to complete it in a shorter amount of time. After the students had tried out several different methods, Mark paused the activity to discuss the methods with the students, and asked why a particular method was so much faster than the others. Students gave responses

with varying degrees of specificity, such as “Because we were sitting down that time”, and “Because we all knew what our job was” (CO9A3). Mark emphasized those responses that related to cooperation and teamwork in order to help the students understand that the goal of the activity was to work together as a group, and to help them develop a successful strategy. These debriefs were mostly teacher directed, and aimed at drawing out the meaning of the activity through focused questioning by the teacher that prompted student reflection.

In the grade 12 course, debriefing was used much more frequently and in greater depth. After an authentic assessment experience, such as the assistant instructor audit or the crisis management scenario, two hours were devoted to debriefing and processing the experience. Jack would ask students to reflect on how things had gone using a model consisting of three circles. The innermost circle represented the individual, the next represented the small group, and the third, outermost circle represented the whole class. Students would write their reflections in their journals using this model, and then come to the debrief prepared to discuss their experiences and perceptions.

To debrief the crisis management scenario, Jack divided the class into groups and assigned each group a topic, such as communication, level of engagement in the activity, students’ roles, organization, and concrete learnings for the future. Each small group had the opportunity to discuss their topic and share their discussion with the class, and the class could then offer further opinions or ideas. The students were active participants in this process, and after setting up the organization of the debrief, Jack was able to sit back and allow the students to drive the discussion. Jack acknowledged that the students

become more effective at debriefing over the course of the year, and that he is able to step back and reduce his role in the process.

What they do better and better is they understand, they see a direction, here's what we need to do, and they'll follow instruction a little bit better in terms of setting up a debrief so it can be more productive, where right now I very much have to lead them through each step. Whereas near the end of the year it can be up on the board, any clarification, okay let's go, we'll end with a large group discussion in half an hour, they can do that. (T02I, p. 8)

This was in contrast to the grade 9 course, where Mark felt that he had to remain involved in the debrief, even towards the end of the year. "I haven't noticed a strengthening or a tightening of the responses or the specific comments over the course of the year" (T01I, p. 8). Debriefs in the grade 12 course were more participant oriented than the grade 9 course, and were aimed at drawing out the key learnings from the experience, as well as exploring different meanings that different students took away from their experience.

Critical Reflection

In all RCS outdoor education courses, students are required to keep an outdoor education journal. This journal serves a number of purposes. It is a resource, in which students can keep handouts and information sheets from their teachers. It is a portfolio, through which students record their participation and achievement in authentic assessments. It also serves as the vehicle through which students record personal critical reflection pieces. These journals are periodically handed in to the teachers, and students are given written feedback on their reflections. For example, at the conclusion of the on-water canoeing unit, Mark asked his grade 9 students to write a reflection entitled "What I Really Learned in Canoeing", and he directed them not to write about the specific hard

skills, such as paddling techniques, that they learned. In contrast with the grade 12 class, Jack asked students to write reflections in their journals to prepare for oral debriefs during class time.

Testing and Examinations

Because of the timing of my visits to RCS, I was not able to observe any unit tests or final examinations; however, I did have the opportunity to discuss these topics with both students and teachers. This allowed me to gain some understanding of the role that formal testing plays in the outdoor education program at RCS. In the OE courses at RCS, the final written and practical examinations combine for 30% of the course mark, with the other 70% coming from term work. Both Mark and Jack reported that they found formal, traditional paper-and-pencil testing to be an ineffective method for determining a student's knowledge and abilities, and commented that they used high stakes tests as little as possible.

In the grade 9 course, the syllabus states that for each unit, a unit test will account for 20% of the unit mark. Mark found that in practice this does not usually occur.

We consciously set out to have each unit and the assessment for each unit be weighted specifically so that no unit test or no practical evaluation is ever going to really sway the balance. It's my own pedagogy and the belief that a major unit test is not the best method of assessment or evaluation. I'm very happy to break up and not have a unit test, it can be four quizzes that make up the 20 percent. (T01I, p. 6)

Similarly, the final examination was not a focus for Mark, but appeared to be more a requirement with which he had to comply.

In the grade 12 course, testing was not a major component of the assessment framework. In my conversations with Jack and with current and former students in the

grade 12 course, testing was barely mentioned. Jack's only thoughts on exams were "Examinations, um, it's a requirement of the school" (T02I, p. 4). Some grade 12 students raised the topic of the examination, and recalled that it mostly focused on technical aspects of the ropes course and crisis management training. Both Jack and Mark focused on using a wide variety of different assessment techniques in order to get the best picture of how their students were doing. Mark distributed unit marks amongst unit tests, homework, group work, journal entries, daily participation and readiness for class, quizzes, and self assessments. Jack used a combination of quizzes, homework checks, labs, group assignments and self assessments.

Experienced Assessment Practices

One of the goals of this study was to explore students' perceptions of and reactions to different forms of assessment. During my observations and interviews, I became aware of two important aspects of students' perceptions of assessment: their awareness of assessment practices and their sense of the goals of assessment. In this section I will describe those two aspects of students' perceptions of assessment, as well as students' reactions to and feelings about particular forms of assessment, including peer assessment, self assessment, debriefing, testing, and authentic assessment.

Awareness of assessment practices

I was able to observe students' awareness of the presence of assessment in their classes on several occasions. There were notable differences between the grade 9 classes and the grade 12 class. In the grade 9 class, assessment was a part of the day to day routine, and was explicitly discussed. For example, at the beginning of several of the

classes, Mark would record a mark for students based on their preparedness for class, i.e. were they dressed appropriately? had they brought their water bottle and journal with them? The students were clearly aware that they were being marked on their preparedness, as they could observe Mark recording marks in his notebook. Both grade 9 students whom I interviewed mentioned that they knew that they were marked on preparedness and participation. Kayla commented that:

For cookouts, even if whatever you're making doesn't work out, but you still did all the right steps, you might not know it but he still might give you a good mark, even though you didn't cook the thing right. (S0901I, p. 2)

The grade 9 students also appeared to be quite aware of the importance of assessment, and would often ask questions about how they were being graded for a given task. During a navigation activity, in which students were required to use a handheld Global Positioning System (GPS) to locate certain checkpoints, one girl asked, "How will we be marked today?" (CO9B4). Assessment had not been mentioned to that point, yet she felt it was important to know how she was being assessed before embarking on the task. The same type of comment was made by another grade 9 student during the cookout. She gave Mark a piece of the pancake she had made, and when he liked it she asked, "Do I get bonus marks then?" (CO9A2). Although the comment was made in jest, it was clear that assessment was on this student's mind during the activity.

The grade 12 students, conversely, did not openly discuss marks or assessment in the same way. Leading up to the assistant instructor audit, during which the students were going to be observed during belaying and climbing, no student asked how they would be assessed on the activity, despite the fact that this was the major assessment item for the ropes course unit. Instead the discussion focused around why the instructor audit

was being conducted, and what the goals were, rather than how students would be assigned marks for their performance. When Jack asked the class what they thought the purpose of the audit was, the first response offered was “feedback” (CO12A3). Jack acknowledged that for most of his students, their focus was balanced between marks and what they were actually learning.

Some [students] are [focused on marks], and some play it well, they kind of care about their marks, but they care about buying into everything else that’s going on. (T02I, p. 10)

In my interviews with the students, we would discuss various forms of assessment, and both the grade 9 and grade 12 students showed an understanding of peer and self assessments, and an awareness of the prevalence of assessment in the classroom. For example, many students understood that assessment did not just take place during tests or quizzes, but that it was ongoing, and occurred in part through teacher observation. Denise recalled her experience when students came from other schools to participate in activities on the ropes course run by her class.

When the kids would come from the different schools [to use the ropes course], he gave each of us different parts, like different leadership roles and that kind of stuff, and I think he may have been silently evaluating, evaluating us kind of in that, in that way. I don’t know if he actually put marks on it, but he definitely watched us. (S1302I, p. 2)

Assessment, whether discussed explicitly or not, occurred on a day-to-day basis in these classrooms, and the students were aware of both the overt assessment techniques, such as testing, as well as the more subtle aspects, such as informal feedback.

Goals of assessment

Through my interviews with the students, it was evident that they all were aware of the variety of assessment tools used by their teachers, including quizzes, tests, exams, self assessment, peer assessment, debriefing and authentic assessments. Students were clearly able to identify these techniques and when they were used in class, and explain how these techniques impacted them: however, they had difficulty identifying the purpose of the various assessment tools.

The goals of assessment were explicitly discussed with students on several occasions. During the lesson prior to the assistant instructor audit, Jack sat down with his students and discussed the goals of the experience, and why he had chosen this type of assessment. When students discussed the assistant instructor audit with me, they were able to identify what it meant to them and what they liked about the experience, but were unclear on the goals of the exercise. Laura, before the audit occurred, explained, “I don’t really get it, I mean I get that there’s going to be someone coming in to watch us, how we climb, but I don’t think it’s going to be that big of a deal” (S1201I, p. 7). This conversation took place only about an hour after the discussion with Jack about the goals of the audit. Clearly, Laura had not absorbed the goal of the assessment from that conversation: however in speaking with students after the experience, it was clear that they understood the purpose of the authentic assessment format. Thus the students were achieving the goals set out by the teachers in selecting certain assessment methods, but they did not necessarily understand the goals prior to experiencing the assessment itself.

Assessment preferences

Students were very clear on the types of assessments that they liked and those that they disliked. Of the assessment techniques discussed in the interviews, students had definite opinions on peer assessment, self assessment, debriefing, testing, and authentic assessment.

Peer assessment Students found the peer assessments to be a useful and meaningful assessment technique for a number of reasons. They saw the peer assessment as a means of communicating to the teacher about group dynamics and shared work, as well as helping the teacher to see aspects of themselves and others that might not be visible in the whole class environment.

I think it's good that the teacher sees from like both points of views, cause like sometimes he can't see what's going on inside the group. (S0902I, p. 3)

I think it's a good method because sometimes the teacher doesn't see everything, but students see, right? Like sometimes someone who seems like a leader is, but then they're lacking certain aspects of one, and students can bring like the attention to that. (S1303, p. 4)

Mark also acknowledged that this was an unexpected benefit of peer assessment, because it helped him to get a more complete picture of the way his class was interacting. The students found peer assessments meaningful because they thought that most students in the class were honest with their feedback, and that they valued the views of their peers because of the close relationship formed in the OE class. Both students and teachers observed that peer assessments became more effective and more meaningful over the course of the year as the class dynamic developed and tightened. Kayla mentioned in her

interview that she felt more capable of doing peer assessments now that she knew her classmates better.

I think that at the beginning of the year we weren't at all comfortable enough [to assess each other], but I think now we're able to. (S0901I, p. 3)

Peer assessments helped the students to become comfortable giving each other feedback and assessing each other, but were ultimately viewed by students as a way to communicate to the teacher about the success or failure of cooperation during group work.

Self assessment Self assessments were not as popular as peer assessment with the students. They found it difficult to assess themselves honestly, while at the same time wanting to give themselves good marks. While the students recognized the value of the self assessment process, they also recognized that ultimately their self assessment would impact their grade, and the grade took priority over true, honest reflection. Laura's comment on self assessment summarizes the challenge that many students found with this assessment technique.

I don't really want to evaluate [myself], because you know you're always so freaked out to do it to yourself. Like you either like overanalyze everything and then you give yourself a really low grade, or you're just like, I'm a ten out of ten all the time. So it doesn't really seem that accurate when you do it for yourself. (S1201I, p.4)

During my individual interviews with the students, marks generally were not mentioned unless I explicitly asked a question about them. Self assessment was the one exception to this trend, as students would often talk about ranking themselves on a scale of one to ten, and the difficulty associated with transferring one's ability to such a number.

The mark itself is fine, it's just I find it difficult to place myself in that because I always feel like I don't want to be like really overconfident and be like "well I deserve a hundred percent on this" or I don't want to lower my grade because I think maybe I'm just not quite as good as others. But I think if we just didn't have the grade but were allowed to just comment on how we did, he'd be able to get like a pretty good understanding of where the mark would sit at. (S0902I, p. 2)

I think whether or not you were supposed to or not, I think you'd would still be thinking okay what would this give my mark, and how could this make my mark better or worse. (S0901I, p. 3)

It was clear that the students found it more meaningful to reflect upon their performance or abilities in a qualitative way, and that attempting to quantify their learning reduced the meaning of the assessment. In addition, students did not feel that they were able to mark or grade their own participation or work accurately.

Debriefing Because debriefing was used in very different ways in the two different courses that I observed, the students' opinions about debriefing were considerably different.

In my observations of grade 9 debriefs, the students were not always aware that the debriefing process was occurring. Mark was able to help his students work together and guide their decision making in an unobtrusive way, so that the students were not able to separate the debrief from the activity itself. Sarah did say that she valued the comments that Mark made more than those from her peers, because "he knows what he's doing" (S0902I, p. 4), whereas she did not trust the views of her peers as much because there are always "people that just like joke around about it" (S0902I, p. 3). For the grade 9 students, debriefing had not progressed to the point at which students were focused on hearing each others' experiences, which was clear by the way that students would talk over one another during the debrief that Mark led.

In contrast, the current and former grade 12 students whom I interviewed really valued hearing the views of their peers, and considered it to be an important part of the debriefing process.

When you get to debrief you sort of actually get to reflect and sort of find out what other people were doing and what other people's takes on it were. So, yeah, I loved doing the debriefs. (S1303I, p. 3)

He wants to have our opinions, like he doesn't want to just tell us what it was, cause maybe someone thought the activity was really interesting here, they really felt out of their comfort zone in this area, and he would never have known that. (S1303I, p. 4)

The students in the grade 12 course saw debriefs as much more student-oriented than those in the grade 9 course, and understood the role that debriefing plays in the learning process. For the debrief of the crisis management scenario, Jack began the class by telling the students that in order to benefit from the debrief, they as students had to drive the process, and that the debrief would not be as meaningful to them if he dictated the process. He then asked students to take a moment to finish up written reflections in their journals before beginning the debrief. During this time, one male student tried to talk to another student sitting next to him, but was gently rebuked by the student to focus on his reflection. This small interaction showed me that the students in this class were comfortable commenting not only on each others' performance, but on each others' behaviour as well. Jack put on a video that he had made of the crisis management scenario, and as students watched they felt quite comfortable talking about their behaviour during the scenario to the whole class. One student pointed out, "It looks like I'm doing nothing a lot" (CO12A6), and then listened as several other students commented on this. He felt comfortable pointing out his shortcomings, and was

interested to hear what other students had to say about it. Another student, after the video was over, and the class had been discussing the scenario for a little while, said, “I guess everywhere we could have improved, but at the same time it was the first time we did it” (CO12A6). Up to that point, the conversation had been focused on the ways in which the students could have done better, and this student clearly wanted to keep the atmosphere of the debrief positive. These two comments demonstrate the depth of reflection and the comfort level of this class with the debriefing process.

Testing Most students shared the viewpoint of their teachers that traditional paper-and-pencil testing was not an effective means of assessing knowledge or understanding. There was, however, a lingering sense that tests are a more legitimate method of school assessment, even if it was not one that the students preferred or valued. When asked if she would have learned more about the ropes course if she had been assessed with a test instead of the assistant instructor audit, Abby responded in the affirmative. She explained that “you’d feel a lot more confident in getting out of the course, and you’d feel like you can go somewhere else and then actually say to someone ‘this is what it’s called’” (S1203I, p. 4) if there had been a test on the material as well. This represents the traditional viewpoint that tests are an absolute measure of knowledge and skills. Denise disagreed, as she felt that the test only represented a certain type of learning.

The test before might have just, you would have studied for it and prepared for it, and whether you got it right or not, that would have been how you evaluated on paper, and it would have kind of been “okay, well I got that wrong”, but in the real situation, there were other people around you, you’re not isolated to a test,. So if you didn’t remember, if you got it wrong, somebody else probably had it right, and they can help you, and learning like that is a lot better. (S1302I, p. 4)

The students believed that tests only measure knowledge of facts, but that other methods of assessment are more appropriate for the types of skills that the students are trying to learn in outdoor education. Jen expanded further on this perspective, as she felt that testing would have detracted from the experiential learning that occurred during the authentic assessments.

It definitely probably would have taken away from what you did because you have this fantastic experience, and the last thing a kid wants to do from an experience is be marked or tested on it, so, I don't think testing after would have been the best idea. (S1301I, p. 3)

These two viewpoints came from students who had completed the grade 12 OE course the previous year, and had had time to reflect on their experiences and what they learned in the course, from a retrospective perspective. It was clear that it took time for the students to move away from the traditional perspective on testing and realize that other legitimate forms of assessment exist. The younger students, especially those in grade 9, had not yet come to this realization.

I'm pretty sure, just because you're doing the same thing [in a practical evaluation as in a test], only you're actually like putting it out there and doing it for yourself rather than just in theory, so I think it's a bit better. (S0902I, p. 4)

Sarah understood that authentic assessments made more sense to her for some skills, such as canoeing, but had not thought conceptually about the difference between testing and authentic assessment, as some of the senior students had done. While some students felt that testing was an important way to assess learning, others believed that they learned more from authentic assessment experiences.

Authentic assessment In my interviews with students we did not talk specifically about authentic assessment in general, but rather about the specific authentic assessment

opportunities that they had experienced.. It was clear that students understood the perspective of their teachers that the authentic assessment experience was a celebration of the learning that had been achieved in preparation, in contrast to a paper-and-pencil assessment task.

I think it's on how you commit yourself to it, like your participation is a big thing, and then also just if you're working well with others, and then also there's the how well you do it. I think that's more of a lower thing, as long as he sees that you're really trying. (S0902I, p. 2)

While some students believed that paper-and-pencil testing was the most legitimate means of assessment, others suggested that they learned more from authentic assessments. Students reported that this form of assessment was more enjoyable, less stressful, and made more sense in terms of what they were trying to learn.

Our bush walk, that was pretty good too, cause you're outside and you're walking around with your friends and you're just like finding one point to another, but it's pretty like relaxed. And then, you get evaluated on that, and as long as you do the criteria you needed to follow, then it's pretty good. (S0902I, p. 3)

It definitely made you a lot more relaxed, knowing that well knowing that you weren't going to be tested afterwards, but knowing that you were still getting marked on it, you weren't as stressed out but you knew that you had to focus, but it made it a lot more fun knowing that it was just, you know, for the experience. (S1301I, p. 3)

This relaxed and positive attitude towards authentic assessment was certainly evident during my observations as well. At the outset of both the assistant instructor audit and the crisis management scenario, students were somewhat subdued and quieter than usual, but once the activities got underway, the noise and energy level of the class returned to normal. Students would joke around with each other and their teachers while working through the task at hand. During the crisis management scenario, one student ran

past me and Jack on his way to getting first aid supplies and exclaimed, “This is just so much fun!” (CO12A5). As this was the major assessment of students’ first aid and crisis management skills, it was clear that he was enjoying the assessment format that Jack had selected. While students were enjoying the experience, they were also learning from the authentic assessment format.

I think the first aid, if you wrote a test, you’d kind of memorize stuff and kind of get to understand it, but you wouldn’t have the same understanding as actually doing it, and it gives you a chance to have the experience and the real life experience as opposed to just reading about it. I mean, you can’t really relate to it, when you just read about it. (S1303I, pp. 4-5)

I think that the physical part of it really made it stick in your head, like it really gave you the situation, it was in front of you, I mean we all knew that they weren’t actually hurt, but just in pretending it seemed real, and it was just, the fact that you thought that you were dealing with this real situation and you need to get these people out, and it made you really think. (S1302I, p. 3)

Sophie and Denise identified an important component of authentic assessment; that it is an active process in which the students are engaged. They describe their authentic assessment experiences as requiring thinking and learning occurring throughout the assessment, not exercises based on restating previously learned facts.

Impact of Assessment Practices

In addition to their preferences for various forms of assessment, the students whom I interviewed spoke with me about how assessment impacted their outdoor education experiences. These responses fell into three categories: the impact on students’ feelings about themselves; the impact on group dynamics; and the impact on transfer of learning.

Feelings about self

The students I spoke with were very clear in describing the ways in which their outdoor education experiences had affected their feelings about themselves. In several cases, this change in feeling was directly linked to assessment, while in others the link was more tenuous, or students had difficulty identifying the causal factors.

Increased confidence The main change in feelings about self that students reported was an increase in confidence in a group setting. Three students in particular explained that prior to taking an outdoor education course, they considered themselves to be quiet or shy, but that they now felt comfortable speaking out in the class environment.

Before I would be really really shy to do anything in the outdoors...but I don't know, I'm not really like that anymore, and I don't know why, but just in OE it's not a big deal. And maybe it's because the people, like we have such a small class that we all get along really well and we all know each other and we know that we wouldn't judge. But, I don't know, for some reason it's all gone away. (S0901I, pp.4-5)

That [outdoor education course] changed me, because I wasn't ever really the person I am now, like I was always kind of the shyer one, didn't do much, and then Jack saw me and put me in roles where I couldn't be that person, you know what I mean? I had to take the lead, I had to do this, I had to do that. And, it really, it changed me as a person, because I really learned to get out of my shell and get out of my comfort zone. (S1302I, p. 4)

These two quotes illustrate the link between the increase in confidence experienced by the students and the assessment practices used by the teachers.

In the first quote, Kayla explains how a sense of lack of judgment from her peers was instrumental in increasing her confidence level. In reality, students spend a fair bit of time assessing each other and giving each other feedback, but it is framed in a non-judgmental way by their teacher, and is thus viewed positively by the students. Because

of this supportive atmosphere of assessment that the teacher has cultivated in his class, Kayla felt comfortable enough to grow. In my observations of her class, it was clear that she felt comfortable enough to be herself and joke around with her classmates, and was not afraid to try out an activity and fail.

In the second quote, Denise identifies how her teacher put her in specific roles during authentic assessment experiences that forced her to explore leadership roles, and her successful experiences in these roles increased her confidence in herself. This is again due to the assessment strategy of the teacher, both the authentic assessment framework and his specific choices for particular students within that framework. Sophie, after her winter camping experience, wrote the following in her journal, which summarizes the effects of the authentic assessment experience.

Although the experience wasn't sugar coated, I think it was so worthwhile. And I believe that real experiences aren't sugar coated. I believe they are the best kind. They teach you life lessons and toughen you up a bit. Winter camping made me feel much more confident as a person. It proved to me that I am positive, and how vital a positive attitude is in somewhat difficult situations. (S1303J, p. 3)

She felt that going through the experience of winter camping and facing challenges along the way helped her to realize her capabilities and feel more confident in what she was able to do.

Personal challenge The element of personal challenge is integral to the goals of outdoor education, and was clearly present within the RCS program. Several students explained that they felt as though they were challenged to try new activities and move outside of their comfort zones through the assessment framework used in their outdoor education experiences at RCS. Personal challenge was also linked to the increase in confidence experienced by students.

Definitely it made you a lot more confident with yourself. Because you're trying things that you're uncomfortable with and you just doubt yourself when you're doing them, but then you get through them successfully and you're just like "wow I can do anything". (S1301I, p. 1)

Students were encouraged by both their peers and teachers to extend their perceived personal limits in order to try to overcome challenges. I observed one male student on a high ropes element during a grade 12 class. He was having difficulty navigating the element, and his belay team was offering advice and encouragement for him to continue trying to get across. Eventually he gave up, and asked to be lowered to the ground. Jack went over to talk to the student, and they discussed different ways that he might attack the element differently the next time he attempted it. There was no sense of failure at stopping before completing the element, but there was clearly an understanding that he would attempt it again until he mastered it.

This was a common thread in the grade 12 class. On more than one occasion a student would arrive at the ropes course talking about his or her strategy for a particular element, based on what they had done the day before. Several assessment methods helped to enhance the atmosphere of personal challenge, including peer feedback and authentic assessment. Peer feedback was given in such a way as to encourage students to feel comfortable trying new things without fear of being made fun of for failing.

Before I would be really really shy to do anything in the outdoors cause I was always like I was...I'm not strong, and yeah and I was always nervous to be the one in gym who has to show everybody cause I thought "oh my god, everyone's going to be like "what is she doing?"" But I don't know, I'm not really like that anymore, and I don't know why, but just in OE it's not a big deal. And maybe it's because we have such a small class that we all get along really well and we all know each other and we know that we wouldn't judge. (S0901I, pp.3-4)

The authentic assessments were designed to challenge students to try out new roles and to view themselves in different ways.

It changed me as a person, because I really learned to get out of my shell and get out of my comfort zone and do things that needed to be done at that point in time. And, so I think it opened my mind a lot and I think it really freed up my personality. (S1302I, p. 4)

The use of both peer feedback and authentic assessments helped to create an environment in which students felt comfortable pushing their limits and trying new activities and new roles in order to learn more about themselves and their abilities.

Group dynamics

The importance of group dynamics to the culture of these classes was not something that I anticipated. It was not initially a part of my interview questions, nor something that I intended to try to observe, yet students raised the issue again and again in interviews. Their emphasis helped me to recognize that it was a very important component of the assessment culture as well as each individual's outdoor education experience.

There were several dimensions to group dynamics that were mentioned, including the closeness of the relationships within the class, the positive atmosphere generated by the group, and the level of mutual respect between peers. These aspects were linked to peer assessment, debriefing, and authentic assessment experiences, and all centered around the effective communication skills that students were building through these types of assessment tools.

Close relationships Every student whom I interviewed discussed the close relationships formed in their outdoor education classes. Some of the students provided a

rationale for this closeness, while others seemed to take for granted that it was an inherent aspect of OE classes.

Last year I had really close friends in my old class, and then on the other hand I had people that I didn't really get that well along with, and by the end of the year we were all really tight knit. And I'm hoping that this group, this group is kind of different, but I'm hoping that by the end of the year it will be, it will probably end up like that. It'll probably end up like that, it always does, cause of the small classes. (S1203I, p. 3)

It's different from other classes cause you get to bond really with your class because you're doing stuff together that involves risk. (S1303I, p. 1)

It's the way when you're at camp and you, you spend so much time with these people, and it's kind of the same in OE cause you're not doing stuff with your brain, it's like you're learning all together. (S0901I, p. 5)

Trust is definitely one thing, um between, it definitely bought, brought my grade together a lot more all the OE programs, because you learnt trust and leadership and how to work with one another. (S1301I, p. 1)

Here, the students have provided three different rationales for the close relationships that they formed with their peers: small classes (allowing for more interactions); facing challenging situations together; and, participating in activities that teach trust and leadership (such as the high and low ropes courses). While class size is not directly linked to the assessment techniques employed by teachers, facing and overcoming challenges together and learning about trust and leadership through activities that are heavily debriefed are both important components of the assessment framework. The authentic assessment experiences that I observed in the grade 12 class, the assistant instructor audit and crisis management scenario, both involved a high degree of interaction and cooperation between peers. As Abby described, the nature of these outdoor activities lends itself to developing relationships with other participants.

You get to really know people, sometimes not the way like you get to know them in a class where you just sit there and work. (S1203I, p. 1)

The nature of it [the crisis management scenario] seemed to have the power to bind the grade together probably more than a trip to Washington. (S1203J, p. 2)

Positive atmosphere Positivity was a topic that came up often, especially in the context of feedback and peer assessment. The students seemed to have an understanding of the need to frame their assessment of others in positive, constructive ways, and this focus on positivity was evident in the atmosphere of the classes that I observed. When students were providing each other with informal feedback, there were never any negative thoughts expressed. Students formulated their feedback either as generic statements of support or encouragement, such as “Keep it up”, or as specific constructive suggestions of how to improve, such as “Try it this way”. This is remarkable when it is taken into consideration that I observed students in a number of situations that were both cognitively and physically demanding and challenging. In these situations, students were asked to solve problems or complete tasks that required a high degree of concentration and cooperation. Students were very clear on the fact that they believed that peer feedback needed to be positive, even at the expense of honesty. This was one of the tensions of assessment that emerged from my interviews; the desire to balance effective feedback with encouragement and positive feedback. The students expressed this tension more overtly than the teachers did.

I want to be honest [when assessing my peers], but like, it’s positive, like always positive comments and feedback and everything. (S0902I, p. 3)

Often because we’re so positive in OE we don’t want to stop for a second and then look at ourselves and say “why are certain people doing this well and certain people lie back”, maybe it’s cause they aren’t getting enough feedback. (S1203I, p. 3)

While the students expressed these concerns, from my observations I could not detect any problem with positivity in peer feedback in an informal, day-to-day manner. Students seemed to enjoy giving and getting this type of positive feedback, and it did not seem to be contrived in any way. It was clear that students made a concerted effort to ensure that they were bringing a positive attitude to these activities, and that they were aware of the importance of this attitude to the group dynamic. Two of the students whom I interviewed, Jen and Sophie, had completed a winter camping trip the previous year during which they encountered a number of problems, and both of them reported that staying positive helped them through the experience.

Like when the quinzhee [snow shelter] collapsed we were all like “ahh”, and then we just started laughing. And like, it made it so much better. (S1303I, p. 2)

We didn't get mad at each other, me and my friend who ended up having to stay in the quinzhee, we just made it a complete joke, we were just like “well, everything bad has happened, so let's look, you know, it can only get better from here” and we definitely learned that in the program. (S1301I, p. 5)

Positivity was also something that was actively modeled and nurtured by the teachers as well as the students. Mark expressed that one of his main goals was that each student had “a smile on their face as they're coming into class” (T01I, p. 10), and that it was his job to create an atmosphere in which that was possible. He also felt that assessment was the easiest way to destroy that positive atmosphere, and that he had to be conscious of his assessment choices so as not to negatively impact the positivity in his classroom. “If I'm doing something in terms of assessment that is getting in the way of that smile, then I'm not achieving my goal” (T01I, p. 10).

Mutual respect In each class that I observed, I was struck by the high level of respect that students exhibited for each other and for their teachers. This was immediately evident in the lack of active classroom management that the teachers had to do on a day to day basis. Students would listen to instructions and follow them with little prompting, and stayed engaged in activities until they were completed, without reminding or encouragement from their teacher. If the class did begin to get off task, it only took a quick word from Jack or Mark and the focus would return. This was true with both active lessons, during which students were engaged in a physical task outdoors, as well as more traditional indoor lessons. There was naturally a difference in the level of focus between the grade 9 classes and the grade 12 class, but it was nonetheless present in both grades. Moreover, students showed respect for each other. This was most evident in the ways in which they listened to each other, both in small groups and in the larger class. I observed a number of small group activities with the grade 9 classes, such as compass and GPS navigation tasks, and there would be a high level of discussion in these groups as students tried to navigate their way through a course. I never saw students in these small groups having their ideas or words ignored. Sarah recognized the importance of communication in maintaining this relationship.

A main thing I have really learned is that communication is key. When you speak to your partner and get involved as a team effort it is the easiest way to make your canoeing experience the best it can be. (S0902J, p. 1)

This culture of mutual respect was actively developed by Mark and Jack. Several students mentioned in their interviews how they felt that they were respected by their teacher, and that they appreciated being treated with respect. Jen felt that her relationship with Jack was based on mutual respect. “He talks to you as if you’re his friend, and that

he has a lot of respect for you” (S1301I, p. 4). There was also a sense of respect derived from the type of assessments that the teachers chose to employ in their classrooms. Students felt that they were being assessed fairly, and that they were being assessed in a meaningful way, and this enhanced the culture of respect because they did not feel that they were being talked down to or asked to perform busy work.

Transfer of learning

One of the most significant impacts of assessment that I was able to discuss with the participants was the transfer of learning that occurred because of the assessment techniques used in the RCS OE program. This transfer occurred on two levels: within the course to other aspects of outdoor education, and to other areas of school or life.

Transfer within OE By observing the use of authentic assessment in these OE classes and speaking with students about it, I was able to see how the authentic assessment experiences helped students to bring together different aspects of their learning, and apply their knowledge and skills.

It wasn't about the teacher leaning over your shoulder and making you learn facts, it was about you taking those facts that you learned a while ago, but applying them. (S1203I, p. 2)

There were two components of these assessments that encouraged transfer of learning: the real-life context of the situation, and the complexity of the tasks at hand. The situations, both the assistant instructor audit and the crisis management scenario, were designed to simulate real-life experiences, and students were required to draw on not only their factual knowledge, but the leadership and communication skills required to work with a group as well. Moreover, because the situations approximated real-life, the

impact of the experiences on the students was more significant. “It felt like a real situation, and I don’t think you can learn really any better than actually being immersed in that kind of situation” (S1303I, p. 4).

The tasks were sufficiently complex that students were aware that there was no ‘right’ answer that they would simply be able to find in a reference book. Instead, the tasks required them to collaborate with their peers in order to come up with a solution for the unique problem at hand. They were frequently confronted with problems that they had not encountered before, and knew that they were required to draw on what they had previously learned as well as their creativity in order to solve it.

You didn’t have your book to tell you, “oh, this is what I need to do”. It made you really think and sit down and say “okay, well he has this, so we better do this”, you know? So I think the physical thing was, it works a lot better than just writing a test on it. (S1302I, p. 3)

During the crisis management scenario, it transpired that one of the victims was ‘dead’. This was not something that the students had prepared for in their first aid training, nor was it an event that they had anticipated, and at first they were unsure of what to do. They were forced to discuss the situation, first within the rescue team and then with the base camp organizers, in order to develop a plan of action. They had to consider the emotions of the other victims, their capabilities as a rescue team, and the resources at hand, as well as their prior knowledge of first aid and crisis management in order to decide how to deal with the situation. All of this analysis and bringing together of ideas and opinions happened quickly and effectively because the students were focused on communicating with each other effectively. The synthesis of learning was very clearly evident in their actions.

Transfer to daily life This area of transfer of learning was most important to both Jack and Mark. Mark focused on teaching his grade 9 students skills that they could use to survive high school, while Jack focused on teaching communication skills that students could use outside of the school environment. My observations were focused in the classroom, so I must rely on interviews with students to understand the ways in which they have connected what they learn in their outdoor education courses to their life outside of the classroom.

In some ways the transfer of learning was very evident to the students I interviewed, especially those who had completed all three outdoor education courses. They could clearly identify those skills and characteristics that they had developed in OE, and how they were using them in other academic situations.

This year, I'm doing leadership class, and a lot of us did OE last year and we're sort of taking the stuff we learned about leadership and planning and using it to plan these spirit events that we do. (S1303I, p. 2)

This type of transfer was easy for the students to understand. The idea of applying what they had learned came out of the authentic assessment experiences they had undergone in the grade 12 course, in which application of knowledge and bringing together all of your skills had been the focus of the assessment. Sophie made the extension to activities outside of the school environment. Although several of the students mentioned the usefulness of the hard skills that they were learning and how they might use them in other outdoor endeavours, she made the connection to the personal challenges she had overcome throughout the OE course.

I'm going to Kenya on Tuesday for a service project, and I think I'll sometimes think back to OE and sort of think back to like the out of your comfort zone situations and [think] 'I can do this'. (S1303I, p. 6)

Summary

This chapter has presented the data collected in this study including the assessment practices in the OE program at RCS, the assessment practices as experienced by the students in the program, and the students' responses to their assessment experiences. The students at RCS were exposed to a broad range of assessment practices, including self assessment, peer assessment, group debriefing, authentic assessment, critical reflection, quizzes, tests, and examinations. They were aware of the presence of assessment in the classroom, but were did not always understand the goal of a given assessment. The students expressed a preference for authentic assessment over written testing. The students reported three areas where assessment impacted their learning: by increasing their self-confidence; by developing of a positive group dynamic; and by promoting transfer of learning. The analysis of this data will be presented in the next chapter.

CHAPTER FIVE: DISCUSSION

Introduction

In my outdoor education experiences, I have frequently come across a debriefing format known as the ‘What?, So What?, Now What?’ model. Each question is used in succession to help participants process an experience. The ‘What?’ phase is used to identify and clarify the components of the experience itself; the ‘So What?’ phase helps participants draw out the meaning of the experience; and the ‘Now What?’ phase helps them to transfer the meaning of the experience into the actions or next steps that they will take to apply what they have learned from their experience. In the previous chapter I described the data collected during this study, organized according to the research questions of the study. This represents the ‘What?’ component of this thesis, the data itself. In this chapter I will explore the ‘So What?’ question in order to draw out the meaningful themes that emerged from the data, with reference to relevant literature and my theoretical framework. This chapter is organized in the same way as the previous chapter, according to the research questions of the study. First I will discuss the culture of assessment with reference to the range of assessment practices in use. Next I will describe the experiences of the students with these assessment practices and the significance of their preferences in assessment. Finally I will explore the impacts of assessment on students from their perspective.

Assessment Culture

One of the primary research questions of this study was ‘What is the range of assessment practices experienced by students in a secondary outdoor education

program?’ In the previous chapter I described the various types of assessments that Jack and Mark employed in their classes, including self assessment, peer assessment, authentic assessment, debriefing, journaling, testing, and examinations. From the data collected on these topics, two clear themes emerge. The first theme is the diversity in the assessment techniques that these teachers used in their classes. This diversity helped to reduce assessment anxiety amongst students, and created a perception of fair assessment from the perspective of the students. The second theme was the emphasis on student-centered assessment. The use of student-centered assessment engaged the students in the assessment process and empowered them to be decision makers in their own education. These characteristics of low anxiety, fairness, empowerment, and engagement define the culture of assessment in the outdoor education classes involved in this study.

Diversity of assessment tools

Both Mark and Jack used a very broad range of different types of assessments in their classes. Diversity in assessment tools is considered to be effective practice because it allows the teacher to create a fuller, more accurate portrayal of a student’s achievement than he or she would be able to generate if using a smaller variety of techniques. In addition, a range of assessment tools that use different types of skills and knowledge allows the student to demonstrate their learning in a variety of ways. There were two significant implications of this diversity in assessment: a low level of anxiety about assessments and a perception of fairness in assessment amongst students.

Assessment anxiety The range of assessment tools and the frequency of assessment used by Jack and Mark meant that students were continuously being assessed in a variety of different ways. For example, in a given class, students might write a quiz,

be assessed on their participation, and engage in a group debrief. In all of these activities, students are being assessed by themselves, their peers, and their teachers. The prevalence of assessment in the classroom in many different forms meant that the students did not perceive assessment to be high-stakes. When discussing her experiences with authentic assessment, Jen observed that “It definitely made you a lot more relaxed, knowing that you weren’t going to be tested afterwards, but knowing that you were still getting marked on it, you weren’t as stressed out but you knew that you had to focus” (S1301I, p. 3).

Students did not perceive assessment in a negative way, because it was associated with goal setting and improvement, rather than judgment or validation. The majority of the assessment that took place on a day-to-day basis in the OE classes was for formative purposes, not for record-keeping or generating final marks. Formative assessment, when used effectively, should help students to identify learning goals and develop plans to work towards achieving them (Black & Wiliam, 1998; Boud & Falchikov, 2006; Sadler, 1998). This was one goal of the formative assessments that Jack and Mark used in their classes, however it served a secondary purpose as well. Formative assessments such as self assessments, peer assessments, and group debriefs helped students become comfortable giving and receiving feedback on their performance. They became able to recognize their accomplishments and growth without the use of grades as a standard. The thoughtful and individual comments and feedback that students received from their peers and teachers was perceived to be more personally meaningful to their learning than any numerical representation might be. This reduced the emphasis on grades as a measure of achievement, and thus reduced anxiety about assessments amongst the students.

Fair assessment ‘Fair’ assessment can be interpreted in a number of ways, depending on the context. From the perspective of the student, however, fair assessment has a specific meaning. Fair assessment means that the student feels adequately prepared for the assessment, both in terms of the material being assessed and the assessment format, that the student feels he or she has enough time to complete the assessment, and that the mark is representative of the level of effort and achievement.

None of the students whom I interviewed reported feeling that they were assessed unfairly. Indeed, during my observations, I never saw any instances of students complaining about an unfair assessment. When I discussed marks with those students who had completed an OE course, they all agreed that their final marks were representative of their effort and achievement in the course. This was related to the variety of assessment tools. Although students may not have enjoyed every single type of assessment, they recognized that their achievement was being accurately represented because of the range of assessment practices in place. Jen explained that “I definitely felt that I got marked fairly, you can’t be told that you’re absolutely perfect at something” (S1301I, p. 4).

Pepper and Pathak (2008) conducted two quantitative studies of undergraduate students to examine their perceptions of fair assessment. They gave a total of 423 participants eight assessment scenarios where they were required to score the scenario based on whether or not they found it to be a fair situation. Pepper and Pathak’s findings suggested that having explicit assessment criteria, frequent feedback, and proactive instruction techniques increased the perception of fairness among participants, with frequent feedback being the most important indicator of perceived fairness. These three

characteristics of perceived fair assessment were certainly present in Mark and Jack's classes. Both Mark and Jack discussed assessment criteria with their students prior to any assessment, and often gave them a rubric or marking scheme ahead of time. Both teachers were proactive in the ways that they engaged their students and ensured that each student was as prepared as possible for a given assessment task. The frequency of feedback in these OE courses was much higher than in a typical classroom, because each student was constantly being given feedback from their peers and their teacher, as well as assessing their own progress. From the perspective of Pepper and Pathak's study, it makes sense that the students in Mark and Jack's classes perceived their assessment to be fair.

It was especially important in this context for students to feel that they were being assessed fairly because of the meaningfulness of assessment to these students. The feedback that they were receiving was often quite personal, as it pertained to their ability to communicate with others, or lead a group, for example. For a student to feel that he or she was being assessed unfairly on his or her leadership skills would be more emotionally devastating than feeling that a teacher did not give enough time to write a math test.

Student-centered assessment

When I examined all of the various forms of assessment that Mark and Jack employed in their classes, what became apparent was the emphasis on student-centered assessments; assessment techniques that are focused on drawing out the experiences of the students and reflecting on them, rather than techniques where the teacher validates the students' achievement through marks or comments. At RCS student-centered assessment took the form of self assessment, debriefing, and authentic assessment. These assessment

tools required that students be active participants in the assessment process and be members of the decision making process, rather than the subjects of assessments conducted by the teacher. The implications of using student-centered assessment are a high degree of engagement by the student in the assessment process, and a sense of empowerment on the part of the student.

Engagement When students are active participants in their own assessment, it follows logically that they would be more invested and engaged in the process. This active participation in the process also means that students also find assessments to be more personally meaningful. I was able to observe a high level of engagement and investment in assessment on several occasions at RCS. The crisis management scenario, which took place on a Saturday, was an excellent indicator of the role that students played in their own assessment, and the level to which they committed to the experience. Students were enthusiastic and involved throughout the day long activity, despite cold temperatures, rain, and emotionally challenging situations. No student indicated that they wanted to stop participating, and no student showed signs that they were no longer actively involved in the events. In the debrief during the class following the crisis management scenario, I observed the students conducting a discussion among themselves about what they learned from the experience, with little input from the teachers. During this discussion, students were likewise always actively involved, comfortably discussing their performance with each other. Several students expressed to me in their interviews how they found assessment to be very meaningful to them. Abby took assessment results and feedback very personally, saying that “it’s often like a reflection of your character” (S1203I, p. 3). Deanna described the self assessment process as reflecting on “how well

you think you're doing, and what you think of yourself" (S1202I, p. 7), indicating that she thought not only about her performance but felt that she was assessing herself personally as well.

Research on the emotional impacts of assessment has shown that there is the potential for both negative and positive changes to self-esteem and motivation, depending on a student's level of achievement. (Anderman & Wolters, 2006; Brookhart, Walsh, & Zientarski, 2006; Harlen & Deakin Crick, 2003). The emphasis at RCS on student-centered assessment increased the potential for emotional responses to assessment because the students were so involved in the assessment process, and took it very seriously. This high level of engagement meant that some students had difficulty separating the assessment of their performance, achievement, or growth and assessment of their worth as people. Abby's observation that assessment felt like a reflection of her character rather than her performance is indicative of the meaning these students attached to assessment. This creates a risk of negative emotional consequences; however the positive culture of assessment developed by Mark and Jack in their classes helped to keep students from being negatively affected by assessment.

Empowerment The sense of empowerment derived from participation in assessment was evident with all of the students involved in this study. In their responses to questions about self and peer assessments it was clear that the students felt that they had important insights to contribute, and that they felt that their opinions were being heard. They believed that their ideas about their own performance or that of their peers were just as valuable as the views of their teachers. This was clearly something that they had accepted to be true, as it was expressed through their actions as well as their words.

Not only did students tell me that they felt competent giving feedback, but they demonstrated it through their actions during group activities and debriefs as well. When I observed debriefs in the grade 9 classes, most of the students would contribute their ideas, although some of the quieter students held back. In the grade 12 class, every student would contribute to the discussion, even through the debriefs were not structured to require each student to speak (i.e. go around the circle and have each person speak in turn).

In the context of Krathwohl et al.'s (1964) taxonomy of affective development, a higher level of participation at the grade 12 level made sense, because the students had more exposure to student-centered assessment techniques, having taken three OE courses, compared to the grade 9 students, who at the time of this study were only two months into their first OE course. The grade 9 students had only just been exposed to student-centered assessment, and were still in the process of recognizing the sense of empowerment that they derived from participating in the assessment process, and responding to this new concept. Some had difficulty accepting that their views were as valid as the teacher's perspective. For example, Sarah explained that she trusted feedback from Mark more than from herself or her peers because "he knows what he's doing" (S0902I, p. 4). The grade 12 students were operating at a higher level of affective development, which evolved through more practice with student-centered assessment. They had certainly accepted that their views were important and had begun to internalize the sense of empowerment they derived from participating in the assessment process. This was evident in their actions, such as giving each other feedback on the ropes course without prompting. They would speak out to give each other suggestions or

encouragement, because they felt comfortable doing so, and believed that it was important for their viewpoint to be heard.

Students' Experiences with Assessment

In my interviews with students, they were very explicit about the ways in which they liked to be assessed. While in some cases their preferences were linked to the perceived level of difficulty or degree of effort required, in many cases they were able to explain why particular assessment formats were more meaningful to them than others. If the goal of assessment is to enhance learning, it is important to understand what types of assessments students perceive to be meaningful. In the context of outdoor education, where there is an emphasis on personal development, it is particularly important to understand how students experience different forms of assessment. In this section I will discuss students' views on self assessment, peer assessment, and authentic assessment. I have chosen to focus my discussion on these three types of assessment because the data yielded the most interesting issues in these areas.

Self assessment

Several of the students I interviewed explained that they found it difficult to assign a mark or grade to their performance, and indeed found ranking themselves in this way to either add nothing to, or detract from, the value of the self assessment itself. To them, reflecting on their own achievement or performance was meaningful and helped to them to recognize areas for improvement, but self assessment did not need to be a part of any summative assessment to be valuable.

Students explained that it was difficult to assess themselves honestly, because they were cognizant of the impact on their mark, but at the same time did not want to appear arrogant by assigning themselves a high mark. Lejk and Wyvill (2001) conducted a quantitative analysis of self and peer assessments, and found that quantitative self assessments tended to level out grades. Students who performed at a lower level than their peers (as measured by the teacher's assessment) tended to over-assess themselves and assign a higher mark than the teacher would, while students who performed at a higher level than their peers tended to under-assess themselves and assign a lower mark. Lejk and Wyvill's suggest that self assessment should not be included in final marks as it is an inaccurate representation of performance. My observations of the students at RCS supported the findings of Lejk and Wyvill that self assessment for the purpose of grading is not an effective assessment practice, but for different reasons. Lejk and Wyvill reject it because they found it to be inaccurate as compared to the teacher's assessment. I would argue that formal grading is at odds with the goals of self assessment.

The process of self assessment is much more than assigning a grade to one's own work. The purpose of using self assessment in the classroom is to help students become lifelong learners, capable of recognizing quality work, able to set goals and work towards achieving those goals. None of these objectives inherently require that grading be a part of the process. Moreover, grading is a construct of the school system, and students will have to learn to develop their own benchmarks to assess their work in the real world. While formal self assessment (for the purpose of grading) was a component of the RCS OE program, students conducted a significant amount of informal self assessment, for example in preparation for debriefs. By reading student journals or observing them

during debriefs, it was clear that students were achieving the objectives of recognizing quality work and goal setting.

Peer assessment

In contrast to the struggle that many of the students had with self assessment, most reported that they enjoyed peer assessments, both giving feedback to their peers and receiving it as well. Peer assessment in the OE program at RCS can be broken down into two categories: formal and informal. Formal peer assessment usually occurred at the end of a group project or unit, while informal peer assessment occurred on a day-to-day basis. In formal peer assessments, the students reported enjoying the process because it gave them the power to communicate to their teachers if someone was not pulling their weight in a group project. Nearly every student mentioned this aspect of peer assessment in interviews. Abby raised the same idea from the opposite viewpoint, pointing out that peer assessment can help draw the teacher's attention to leadership skills they might have overlooked. Whether positive or negative, the students viewed formal peer assessment as a means of communicating to their teacher about their peers. Lejk and Wyvill's (2001) study found that peer assessment, when conducted anonymously, is an accurate form of assessment when compared to the teacher's assessment. Mark agreed with this idea, saying that in peer assessments "students will always be as honest and better at grading themselves than [he would] be" (T01I, p. 6).

Although accuracy is important, the real purpose of peer assessment at RCS was not to mimic the teacher's viewpoint. As with self assessments, it is the qualitative aspect of peer assessment that is more meaningful to students. This qualitative aspect was expressed in the informal feedback that students gave to each other on a day-to-day basis.

The nature of the activities involved in outdoor education lends itself to this type of assessment particularly well. What was remarkable about the OE classes that I observed at RCS was the apparent lack of self-consciousness that students felt in giving each other feedback. During initiative tasks and group debriefs, student would be quite honest with one another about their performance. It was clear that each student felt that their input was important because these constructive suggestions might help another student improve.

Hanrahan and Isaacs (2001) studied students' views of self and peer assessments, and found that without a criterion-referenced assessment framework, students were more inclined to mark each other punitively. This was in contrast to what I observed at RCS. When discussing formal peer assessment, which was done with a rubric and used for grading purposes, students reported that they used this framework punitively. When I observed the students giving informal feedback to each other, which was clearly not criterion-referenced, their comments were directed at helping their peers improve. Although Hanrahan and Isaacs (2001) attach the punitive nature of peer assessment to a norm-referenced assessment framework, I would argue that the punitive nature is more related to the grading component. When students are giving feedback in a situation where grades are entirely removed, they are encouraging and supportive of each other.

Authentic assessment

Authentic assessment, in which students must apply their skills and knowledge in a real life context, is particularly suited to outdoor education. One of the goals of outdoor education, according to the RCS outdoor education mission statement, is to “develop skills allowing comfort with and safety in the natural world”. This goal, in and of itself,

requires that the skills be used in context, rather than just in the classroom. The practical skills of outdoor education are dependent on context as well, for example building a fire in the woods is dependent on the type of materials available in that environment. Writing a quiz on fire building is not as effective as sending a student into the woods to select appropriate firewood and build a fire themselves. Thus it makes sense to use authentic assessment techniques in outdoor education, where to assess such skills out of context is illogical. The logic of authentic assessment was not lost on the students at RCS. Nearly every student I interviewed expressed how this type of assessment made more sense to them than traditional paper and pencil testing, and how it helped them to learn better in context.

Gulikers, Bastiaens, and Kirschner (2004) identified five dimensions of authentic assessment on which the authenticity of the experience is dependent. These dimensions are a) the assessment task, b) the physical context, c) the social context, d) the assessment result or form, and e) the assessment criteria. Considering the five-dimensional framework for authentic assessment proposed by Gulikers, Bastiaens, and Kirschner (2004), it is easy to see why students at RCS found their authentic assessment experiences to be so effective. For example, in the crisis management scenario, Jack strove to make each of these dimensions as authentic as possible in order to enhance the experience for his students. Students were using first aid skills to rescue simulated victims in a secluded wooded area separate from the main school campus, giving an authentic physical context. They were under the direction of a paramedic, and assessed during a debrief conducted by the paramedic with input from the victims, an authentic social context and set of assessment criteria. By addressing each of the five dimensions

of authenticity, Jack ensured that the experience was not contrived, making it a more effective learning tool for his students. When he asked his students to reflect critically on the experience immediately afterwards, Jack was encouraging them to make the connection between the assessment experience and the learning that occurred. This is what Earl and Katz (2006) refer to as “assessment as learning”, where the student is the “critical connector between assessment and learning” (p. 13). This practice is dependent on effective critical reflection, but promotes metacognition in students.

There was a secondary goal to authentic assessments in the OE program at RCS. While this type of assessment allowed students to use their skills and knowledge in a real life situation, the situations created by the teachers also tested the students’ interpersonal skills, such as communication and leadership. For example, in the crisis management scenario, where students were performing first aid on simulated plane crash victims, Jack commented that “it’s a communication, interpersonal exercise, that’s really what it’s all about. Hard skills are not debriefed” (T02I, p. 7). Again, the dimensions of authenticity suggested by Gulikers et al. (2004) are applicable. Students had to work with their peers, confronting complex situations with no ‘right’ answer, and they had to be able to walk away from the situation at the end of the day and still be friends with one another. This is a particularly authentic social context, much less contrived than many peer interactions in schools, and more similar to employment conditions.

Impacts of Assessment on Students

Mark and Jack had developed a unique culture of assessment within their classes, where students felt that they had a voice in their own assessment, were assessed fairly,

and were supported in their learning by both their teacher and their peers. The implications of this positive assessment culture are far reaching, but there are three particularly significant impacts: the development of a community of learners; increased self-confidence and self-efficacy among students; and transfer of learning to students' lives outside of school. Each of these themes is an explicit goal of effective assessment, and so it is important to examine how they came to exist in this context.

Community of learners

Exploring group dynamics and interpersonal relationships was not an explicit goal at the outset of this research study. During these interviews and observations, however, the topic was raised repeatedly by the students who clearly felt a sense of community with their classmates. They felt comfortable with one another, they respected one another, and they felt that they could (and should) help each other learn. This was an unanticipated response from the students. I had not expected the extent to which they valued the community aspect of their OE classes, but I came to realize that it was an important component of the assessment culture in this program.

Clausen, Aquino, and Wideman (2008) identify some characteristics of effective learning communities, including a common goal, shared power, open communication, group memory, and internal learning and evaluation. These characteristics were evident to a certain extent in Jack and Mark's classes. Most significant are the characteristics of shared power and internal learning and evaluation, which are directly related to the assessment framework. These two characteristics are a result of student-centered assessment, where students become involved in the assessment process and have a share in their own evaluation as well as that of their peers.

Learning communities are an important part of outdoor education, where cooperation and teamwork are required in order to participate in many of the activities. The development of a close group dynamic is an essential component of any outdoor group experience. It is a product of many aspects of a program, including the type of activities, the length of the experience, and the degree of cooperation and teamwork required to complete tasks (Paisley, Furman, Sibthorp, & Gookin, 2008). Hattie et. al (1997) described facilitating group development as “forming small groups and making the groups face a set of increasingly more challenging tasks that necessitate group interactions to achieve goals with real consequences” (p. 69). Mark and Jack followed this common format of group development described by Hattie et. al (1997) by using initiative tasks and the high and low ropes courses in their classes. These activities alone do not account for the close relationships formed in the OE classes that were supportive of the learning process, but were illustrative of the types of activities consistently used by these teachers. There were also specific characteristics of the ways in which students supported each others’ learning that were related to the assessment practices. Thus group dynamics developed through two mechanisms: facilitated activities and assessment techniques. I will focus here on how assessment techniques helped to develop a community of learners in the OE context, since group development through facilitated activities is well documented in the literature and was not a focus of this study.

Paisley, Furman, Sibthorp and Gookin (2008) studied participants in courses run by the National Outdoor Leadership School (NOLS). They investigated how specific components of outdoor experiences impacted learning outcomes from the perspective of the participants. In their analysis, they characterized components of outdoor experiences

as being structure-oriented, participant-oriented, or instructor-oriented. Paisley et al (2008) found that group development occurred primarily through structure-oriented and participant-oriented mechanisms, rather than through instructor-oriented mechanisms (such as initiative tasks, as suggested by Hattie et al. (1997)). Structure-oriented mechanisms would be characteristics or activities involved in the course itself, while participant-oriented mechanisms would be interactions between participants. This result, that group development is independent of instructor-oriented mechanisms, seems strange to me, based on my experiences in outdoor education and my reading of related literature. It may be a function of the research design that Paisley et al. (2008) used, namely asking participants to report on their own learning and development. Based on my observations at RCS, I would argue that instructor-oriented mechanisms contribute strongly to group development, but when done effectively, participants may be unaware of the teacher's involvement.

The structure-oriented mechanisms that contributed to the development of a community of learners at RCS were the authentic assessment experiences, which were structured in such a way as to require cooperation, communication, and teamwork. For example, during the assistant instructor audit of the ropes course, students were assigned to belay teams. In these teams they had to work together to accomplish a common goal. During the debrief after the assessment students were asked to comment on the functioning of their small group. The interactions between students during the audit helped to develop a community of learners because students were constantly evaluating each other's actions and supporting each other. Their interactions were a participant-oriented mechanism, while the audit itself was a structure-oriented mechanism. Both of

these components of the program, however, were designed, implemented, and facilitated by Jack. He was involved with each group during the audit, but in such a way that the students were unaware of his role. The students recognized the value of the activity itself and their own contributions, but not those of the teacher. The structure-oriented and participant-oriented mechanisms are direct results of the assessment culture created and maintained by the teacher. An effective outdoor leader, however, is often one who 'leads from behind', whose actions are not always apparent to the participants, who are focused on developing their own leadership skills. This appears to be the case at RCS. Although the students might identify their own interactions with each other and the activities of the course as being the primary agents of group development, these are aspects of the program facilitated by the teacher.

Self-confidence and self-efficacy

Developing confidence in oneself and in one's abilities is a primary goal of outdoor education programs. While research in outdoor education has demonstrated repeatedly that participation in outdoor education programs improves self-confidence and self-efficacy, there have been few attempts to identify what components of outdoor experiences lead to these positive results. While outdoor education is aimed at building self-confidence and self-efficacy, assessment techniques are often detrimental to this process. Assessment can lead to anxiety, decreased motivation, decreased self-confidence and a sense of failure (Crossman, 2007). The apparent contrast between the goals of outdoor education and the all too common impacts of assessment was one of the motivating factors for conducting this research. In the RCS OE program, the assessment

culture was such that it helped to develop self-confidence and self-efficacy in the students, rather than having a detrimental effect.

I discussed self-confidence and self-efficacy with students, and was able to observe them in situations where these topics were raised, such as during group debriefs. Some of the students with whom I spoke gave a similar response to the published literature: they felt that they had increased self-confidence as a result of their participation in outdoor education at RCS, but they were unable to identify specifically those events or characteristics of the program which contributed to this outcome. Based on my observations and interviews, I was able to make connections between the assessment techniques and the development of self-confidence in students. There were two aspects of the assessment techniques used in the RCS OE program which impacted students' confidence in themselves and their abilities: the use of authentic assessment and feedback from teachers. Authentic assessment helped the students to feel more confident in their abilities (self-efficacy), while feedback from teachers improved the way the students felt about themselves (self-confidence).

Authentic assessment Students in the RCS OE program not only preferred authentic assessments to traditional paper-and-pencil tests, but they found them to be more meaningful and supportive of the learning process. They believed that this form of assessment made more sense than traditional testing for the skills and knowledge that they were trying to learn. More importantly, however, authentic assessments helped students to become confident in their skills and knowledge as they applied them to real-life contexts. They were confronted with challenging, complex situations, for example a 'victim' with a broken leg, requiring them to draw on not only their first aid knowledge

but their crisis management, communication, and problem solving skills as well.

Working through these challenging situations successfully gave the students a greater sense of accomplishment than achieving a high mark on a test. By using authentic assessments, Jack and Mark ensured that their students saw the broader context for the skills they were learning. Achieving a high mark on a test might give a student confidence that they can succeed in the high school setting, but successfully completing an authentic assessment experience gave them the confidence to know they can succeed in a real situation.

Feedback from teachers I concluded each of my student interviews by asking the student if there was anything else she thought I should know about the OE program at RCS, or the ways in which students were assessed. Four of the students took that opportunity to tell me how important the teachers were to the program, and how it could not function without their commitment, enthusiasm, and expertise. The level of respect for the teachers was remarkably high, and it was evident not only through students' reports in interviews, but in the minimal amount of active classroom management that each teacher had to do. Students not only felt that they were experts in their field, but that the teachers cared about them as people and wanted to help them grow as individuals. As Jen explained, "He's probably the most respected teacher at our school, and every kid loves him, and knowing that he says like 'good job' to you, it like felt the world to you" (S1301I, p. 4). The students felt that the teachers were invested in their development, and wanted to see them improve. Two students reported that it was specific, individualized feedback from their teachers that helped them realize their full potential and develop

more self-confidence. Jen described a friend's experience in OE where Jack's investment in the student significantly affected her experience.

[She] just did not want to belay, like she just did not feel comfortable with her strength or her abilities that she was...and Jack totally understood that, and then I remember her saying that Jack talked to her, and just by him taking the time doing one on one with her to work with her just made her feel so much better about herself. (S1301I, pp. 4-5)

Denise echoed this sentiment, explaining how Jack recognized her individual weaknesses and adapted assessment tasks to challenge her personally.

I was always kind of the shyer one, didn't do much, and then Jack saw me and put me in roles where I couldn't be that person, you know what I mean? I had to take the lead.... So after a couple of times where he put me in that position, I started putting myself in that position, and it changed me. (S1302I, p. 4)

In both of these cases, the students felt that the individual attention of their teacher impacted how they felt about themselves in a positive way. This is clearly opposite to the traditional assessment paradigm, where the teacher's role is to judge or validate student progress. Within the assessment culture of the OE program, Mark and Jack were viewed by the students as partners in not only their learning but their personal development.

Specific, individualized feedback is a key component of the assessment for learning framework (Stefani, 1998). The benefits to the learning process are obvious, as the student will have a better idea of how he or she is doing, and what he or she needs to do in order to improve. At RCS, the learning partnerships that students formed with their teachers through the feedback process were a result of the assessment culture as well as the personalities and abilities of the teachers themselves. Because the students felt that assessments were aimed at helping them become better, they did perceived feedback

from their teachers in a positive way. This positive mindset meant that they were more likely to act on the feedback, and as a result felt that the teachers played a large role in their personal development.

Transfer of learning

In general, outdoor education programs have two sets of goals: those aimed at developing skills for survival in and respect for the natural world and those aimed at personal and interpersonal development. For goals in the former category, the potential for transfer of learning is limited. Skills are developed for a particular environment with a particular set of equipment. For skills in the latter category, there is unlimited potential for transfer. The personal and interpersonal skills developed through outdoor education can be transferred not only to other academic endeavours, but to every aspect of a student's life. Some of this transfer occurs naturally, for example a student who develops confidence in herself during the course of a canoe trip may be slightly more confident in other areas of her life when she returns home. Bransford, Brown, and Cocking (1999) identify four important characteristics of transfer: initial learning must have occurred; knowledge must be abstract rather than heavily contextualized; transfer must be viewed as an active, dynamic process; and all new learning involves transfer based on previous learning. Transfer will occur to a higher degree if it is effectively facilitated by the teacher, and this can be done through assessment, particularly self assessment and group debriefs, both types of critical reflection. Critical reflection helps the student to attach meaning to his or her learning, and it promotes "active monitoring of one's learning experiences"(Bransford, Brown, & Cocking, 1999), both of which are part of the dynamic transfer process and enhance transfer of learning, according to Bransford et al.

Both Jack and Mark identified transfer of learning as an important goal for their OE courses. They recognized that they were teaching not only outdoor survival skills but life skills as well. Jack communicated this goal to his students explicitly, while Mark did so through the use of his debriefing and critical reflection exercises. For example, Mark asked his students, at the conclusion of an on-water canoeing unit, to write a reflection entitled “What I Really Learned in Canoeing”. He told them not to write about the minutiae of strokes or safety rules, and found that most students wrote primarily about cooperation and working closely with a partner. Jack also used critical reflection to encourage his students to expand their thinking beyond the limits of the course. After a significant experience, he would ask his students to reflect on their own performance, the performance of their small group, and the performance of the whole class. In the debrief after the crisis management scenario, he asked one small group to comment specifically on “concrete learnings for the future” (CO12A6).

Engle (2006) suggests that transfer of learning occurs to a higher degree when “learning and transfer contexts have been framed to create what is called intercontextuality between them” (p. 456). He goes on to explain that intercontextuality is when the learning context and the context in which the learning will be applied have been linked together. This was something that both Jack and Mark helped their students to do through critical reflection. They asked their students to consider where else they might apply their knowledge, and engaged in dialogue with their students about this topic. By linking the two contexts together, they were helping to facilitate transfer of learning.

This chapter has described the main themes that emerged from the data collected for this study. These themes include the assessment culture developed through the use of specific assessment techniques, the meaning that students derive from particular forms of assessment, and the impacts of the unique assessment culture at RCS, including the learning community, the increase in self-confidence amongst students, and the transfer of learning beyond the outdoor education realm. The next chapter will summarize these findings and discuss implications for practice and for future research, in an attempt to answer the question ‘Now What?’

CHAPTER SIX: IMPLICATIONS AND CONCLUSIONS

Introduction

In the ‘What?’, ‘So What?’, ‘Now What?’ debriefing model, one of the most important questions is ‘Now What?’ This question helps participants to link their experience and their learning to future challenges and to their lives outside of that particular context. In this chapter I will explore the question ‘Now What?’ to determine how the findings of this study might be used, both in future research and in other contexts. This chapter will summarize the findings of the study with reference to the research questions driving this research, and discuss the implications of those findings both for practice in outdoor education and in assessment in general, and for further educational research, as well as describe the significance and limitations of the study.

Findings of the Study

In this section I will discuss the findings of this study as they relate to the research questions driving the inquiry. Specifically, 1) What is the range of assessment practices experienced by students in the RCS OE program?, 2) Which types of assessments do students identify as meaningful and why?, and 3) In what ways do students believe assessment, evaluation, and grading contribute to or impedes their overall OE experience?

What is the range of assessment practices experienced by students?

At RCS the teachers employ a broad range of assessment practices, including quizzes, tests, examinations, self assessment, peer assessment, group debriefing, informal ongoing feedback, and authentic assessment. These assessment practices are not covert,

and the students are aware of assessment frameworks, thus there is good alignment between the intended assessment practices as described by the teachers, and the experienced assessment practices, as described by the students. The consequence of this broad range of assessment tools meant that students perceived their assessment to be fair, and were not anxious or stressed about assessment. The emphasis within this assessment framework was on student-centered assessment practices; those which required the student to play an active role in the assessment process, such as self assessment, peer assessment, and authentic assessment. The impact of using student-centered assessment practices was that students were more engaged in the assessment process, and felt empowered to be effective assessors of themselves and their peers. Through the use of a diverse range of assessment techniques with an emphasis on student-centered assessment, the teachers at RCS were able to develop a culture of assessment that was positive and productive, aimed at helping students identify and realize their goals while participating in the assessment process.

Which types of assessments do students identify as meaningful and why?

Students identified three types of assessment as particularly meaningful to them: self assessment, peer assessment, and authentic assessment. There were three main types of meaning that the students derived from their assessment experiences: self-discovery, self-confidence, and empowerment. Self assessment was meaningful to the students because they learned to reflect on their own experiences, and because they felt that their voices were being heard in the assessment process. Peer assessment was meaningful to the students because it helped them to develop relationships with other students in the class, and again because they felt that their opinions were valid. Authentic assessment

was meaningful because it helped the students feel confident in their knowledge and skills outside of the classroom context, and helped them relate their learning to their lives outside of school.

In what ways does assessment impact the overall OE experience?

There were three primary ways in which the assessment framework developed by the teachers at RCS impacted the OE experiences of the students. The assessment culture helped to develop a community of learners within the classroom, students felt more confident in themselves and their abilities, and students were able to transfer their learning to other areas of their lives. The development of a learning community, where members support each other in working towards their goals, was a result of group assessment techniques such as peer assessment and group debriefing. It required a positive atmosphere shaped by mutual respect and close relationships and was facilitated and nurtured by the teachers. Students linked increased self-confidence and self-efficacy (common results of participation in outdoor education), to two components of assessment: authentic assessment and feedback from teachers. They reported that authentic assessment helped them to be more confident in their learning because of the application in context. Feedback from teachers helped the students become more confident because the teacher-student relationship was framed as a learning partnership, in which the teacher was supportive of the student's learning, rather than solely an evaluator. Transfer of learning occurred within the course as well as to other areas of the students' lives. The high level of transfer that the students reported was a result of linking the classroom learning to other contexts where it might be useful, for example through the use of authentic assessments.

Implications of the Study

Implications for practice

There are implications for practice from the findings of this study that are relevant not only to outdoor education specifically, but to assessment in general. These implications are derived from the assessment frameworks and culture of assessment developed within the RCS OE program. The Ontario secondary school curriculum document on Program Planning and Assessment provides specific criteria for successful assessment and evaluation practices. This document suggests that:

In order to ensure that assessment and evaluation are valid and reliable, and that they lead to the improvement of student learning, teachers must use assessment and evaluation strategies that:

- address both what students learn and how well they learn;
- are varied in nature, administered over a period of time, and designed to provide opportunities for students to demonstrate the full range of their learning;
- are appropriate for the learning activities used, the purposes of instruction, and the needs and experiences of the students;
- are fair to all students;
- ensure that each student is given clear directions for improvement;
- promote students' ability to assess their own learning and to set specific goals;
- are communicated clearly to students and parents at the beginning of the course and at other appropriate points throughout the course. (Ontario Ministry of Education, 2000, p. 13)

To some teachers, this may appear to be an overwhelming list of assessment goals, when combined with the realities of marking and record-keeping. Both Mark and Jack, however, were able to develop assessment frameworks that met and exceeded these expectations.

Through the use of self assessment, peer assessment, and group debriefs, Jack and Mark helped their students to become aware of the ways in which they were learning, and brought the learning process to the forefront. This was very evident to me, as the

students were able to communicate to me the ways in which they thought they learned best. By asking their students to become involved in the assessment process, these teachers ensured that students were not only aware of their achievement, but of the process they went through in order to get there. The involvement of students in the assessment process, through self assessment, peer assessment and group debriefing, was one of the most significant components of the assessment culture at RCS, and also one of the most transferable to other disciplines.

Both teachers used a wide variety of assessment tools. This can be challenging for teachers, but seemed easy for Jack and Mark as they were simply choosing assessment techniques that were appropriate for the various learning goals in their classes. This resulted in a range of assessment practices that were aligned with learning outcomes and expectations. These two goals, variety in assessment and alignment with learning outcomes, went hand in hand. The variety in assessment, while an explicit goal for both teachers in and of itself, was derived from their goal of making sure that assessment tools matched the learning outcomes being assessed. Diverse learning expectations exist in the curriculum for any discipline, so if teachers ensure that assessments are designed to align with these expectations, then a varied assessment framework should be inevitable.

‘Fair assessment’ is a vague term, and can refer to many aspects of assessment, including the validity and reliability of assessment tools, the biases of the teacher, as well as the perceptions of students and other stakeholders of that validity. In the context of this study, the term ‘fair assessment’ was used in discussion about students’ perceptions of assessment practices. While this may not seem to be the most important aspect of fair assessment, the way in which students perceived their assessment had a significant

impact on the value they attached to that assessment. The students in the OE program at RCS attached a lot of value to the ways in which they were assessed because they believed that they were being assessed fairly and accurately. This meant that they took assessment very seriously, and were motivated to prepare for assessment tasks and to learn from them. The reasons that they believed their assessment was fair were that they were involved in the assessment process, they felt prepared for assessment tasks, and they felt that they were in a partnership with their peers and teachers, and they believed that their teachers were supporting and contributing to their learning rather than solely evaluating it.

Giving students specific, individualized feedback and helping them to set learning goals are components of assessment for learning practice. These are time consuming practices if the teacher is responsible for the bulk of the work. Jack and Mark were able to use these practices in their classes by transferring that work to their students, through self assessment, peer assessment, group debriefing, and authentic assessment. Through these four modes of assessment, the students received a large amount of feedback on their progress from a variety of sources (themselves, their peers, external 'experts' involved in authentic assessments). Through their journals and self assessments, students were asked to identify strengths and weaknesses as well as learning goals, and Jack and Mark would then provide feedback on these learning plans. Through the use of these types of assessments, the students were receiving constant feedback and setting goals without direct intervention by the teacher at every stage.

One of the reasons that the assessment culture at RCS was so successful at meeting the goals established by the Ministry of Education was that teachers discussed

assessment and assessment goals with their students. This meant that students were comfortable with various assessment techniques, and were comfortable talking about assessment with their peers and their teachers. Students understood that assessment was directed at helping students learn and improve, rather than validating their achievement, because their teachers explained the goal of each type of assessment. By creating a dialogue around assessment, Jack and Mark made sure that students were prepared for different assessment formats and understood the goals of an assessment before undertaking it.

Implications for research

After conducting this study at RCS, several issues emerged that deserve further treatment through research. Although this study included participants from several different grades, it was conducted over a relatively short period of time. This did not allow the researcher to investigate how students' perspectives on assessment evolve throughout the duration of an outdoor education course. Future research on the longitudinal impacts of and perspectives on assessment may be valuable to understanding more about how students experience assessment in outdoor education.

This study was conducted in an integrated program that comprised one quarter of the students' course load for the year and took place from September to June. Many integrated outdoor education courses are semester long programs, where the students are together all day long for five months. Group dynamics and communities of learners were two issues that emerged during this study that would certainly be altered by a more intensive class environment, and deserve further inquiry.

One of the implications of this study is that the assessment practices in outdoor education such as self assessment, peer assessment, and group debriefing are highly relevant to assessment within the school system, where student-centered assessment practices are typically less prevalent. This study examined how two teachers used their outdoor education assessment practices within a school program, and found that these practices were successful in the school context. Investigation into formal and informal assessment in non-school based outdoor education programs may reveal further insight into developing effective assessment practices for the classroom.

Significance

There are three aspects of this study that are significant. This study explores some aspects of outdoor education in a new context, it addresses issues that all teachers face in assessment, and it gives voice to the student perspective on assessment. Outdoor education in the secondary school system and outdoor education in the Canadian context are two areas of research that can benefit from further investigation. The assessment practices of the teachers involved in this study can serve as an example of how student-centered assessment practices and authentic assessment can be used effectively in the classroom. Student perspectives on assessment are rarely heard, yet their views are extremely important to the assessment process.

Research in outdoor education has been primarily focused on extra-curricular programming, such as Outward Bound, the National Outdoor Leadership School, and summer camps. Integrated high school programs are becoming more popular in Ontario, and provide access to outdoor education within the school system, to students who might

otherwise not have the opportunity to participate in outdoor activities. These programs must combine the goals of outdoor education with curriculum requirements, which presents a unique challenge in terms of assessment. This study explored an integrated program where the teachers took assessment practices that exist within the outdoor education sphere and used them to meet curricular requirements as described by the Ontario Ministry of Education Program Planning and Assessment document. In addition, there is little research on outdoor education in the Canadian context. Outdoor education is shaped by regional geography, climate, and history, and so it is important to examine Canadian, and indeed Ontarian outdoor education for the unique lessons that can be learned.

The second aspect of significance in this study is the extent to which the assessment practices used by Jack and Mark in their outdoor education courses can be applied to any discipline. As I have described above, the ways in which they used assessment met or exceeded the guidelines put out by the Ministry of Education for assessment practices. The use of student-centered assessment practices, where the student is an active participant in the assessment process, and the use of authentic assessment practices, where students must apply their knowledge and skills in a real life context, are realistic expectations for assessment practice in the classroom. Moreover, the use of these assessment techniques can support the development of a positive assessment culture and enhanced student experiences in the classroom. There is a reciprocal relationship between the culture of assessment and the techniques used. The positive assessment culture developed by Mark and Jack facilitated the success of the assessment strategies that they chose to use.

Finally, this study is significant because it gives voice to the student perspective on assessment. Students are often the best source of information about what really happens in a classroom, and what it means to them. In the case of assessment, it is particularly important to hear what students are saying because of the potential emotional impacts of assessment and because of the potential impacts on learning. By listening to the students' voices, teachers can design more effective assessment frameworks to meet students' needs.

Limitations

The limitations of this study are related to the short duration and limited number of participants. This study examined a secondary school integrated outdoor education program at an independent school in Ontario. This is a context that does not lend itself to replication, but does reveal unique insight into the research questions of this study. The data collection took place over a period of approximately two months, at the beginning of a school year. Gathering data from students over the course of an entire school year may have revealed more about students' evolving perspectives on assessment in outdoor education, but was beyond the scope of this study. The eight female student participants were drawn from three different groups; grade 9 students who had just entered the outdoor education program, grade eleven students enrolled in a grade 12 course who had completed two previous OE courses, and grade 12 students who had completed three OE courses. All students who chose to participate were included in the study. A second round of participant selection may have yielded more participants from both genders.

Conclusions

This study examined assessment practices in an integrated secondary school outdoor education program at an independent school in Ontario. Using a case study approach, all aspects of the assessment framework, from the perspectives of both teachers and students were explored. This study is unique because it explores outdoor education within the school system, where teachers face different challenges than those teaching outdoor education as a recreational pastime. In addition, the program studied was unique because it is a longstanding program with strong financial and administrative support from the school.

The findings of this study successfully explored the research questions of the study. I have described in detail the range of assessment practices enacted by the two teachers involved in the study, and experienced by their students. Investigating the wide variety of assessment practices allowed me to come to understand the culture of assessment within the RCS OE program, where student-centered assessment is used to help support the learning process. I have determined that students enjoy student-centered assessment, including self assessment, peer assessment, debriefing, and find it to be meaningful and fair. In addition, I described how students found authentic assessment to be meaningful and empowering, and how this form of assessment made more sense to them than traditional testing. Finally, I have explored the impacts of assessment on the students in the OE program, and described how assessment has been used to foster a community of learners, improve self confidence and self efficacy, and enhance transfer of learning.

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APPENDIX A: RECRUITMENT LETTER

Dear Principal:

My name is Annie Casson and I am a Master's of Education student at Queen's University. I am writing to request your permission to undertake research at your school as a part of my thesis entitled "Assessment in Outdoor Education". This study is being conducted through the Faculty of Education at Queen's University, under the supervision of Dr. Lynda Colgan. This research has been approved by the Queen's University General Research Ethics Board.

The purpose of this research is to understand how assessment impacts students' experiences in outdoor education programs. In order to examine these impacts, I hope to conduct a case study of an outdoor education program in a secondary school setting. Your school has an exemplary outdoor education program and a tradition of integrating outdoor education into the curriculum, and I believe it would offer many opportunities for rich data collection.

I am hoping to conduct observations of outdoor education classes as well as interviews with teachers and students involved in the outdoor education program. Observations would take place during regular class hours, and interviews would be conducted outside of school time at the convenience of the participants. There are no anticipated risks associated with participating in the study, and every effort will be made to keep the identities of all participants confidential. Participants would be free to withdraw from the study at any time without negative repercussions.

I intend to publish the findings of the study in professional journals and report them at conferences. At no time will the actual identity of the participants be disclosed. Teachers and students will be assigned pseudonyms and these only will be used in publications.

Please let me know the protocol for approval of research at your school. I am happy to provide any additional information that you may require. Should further information be required before you can make a decision about participation, please feel free to telephone me (Annie Casson) at (613)650-1522 or contact me by e-mail at 6aec4@queensu.ca. For questions, concerns or complaints about the research ethics of this study, please contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).

Yours sincerely,

Annie Casson

APPENDIX B: LETTER OF INFORMATION (TEACHERS)

LETTER OF INFORMATION

Title: Assessment in Outdoor Education

Dear Teacher:

My name is Annie Casson, and I am a Master's student at the Faculty of Education at Queen's University. I am writing to request your participation in research on assessment practices in outdoor education. The goal of this research is to understand how assessment impacts students' experiences in outdoor education programs. This research will be conducted as a part of my Master's thesis, under the supervision of Dr. Lynda Colgan. This research has been cleared by the Queen's University General Research Ethics Board and also by your school.

For this research I am conducting a case study of your school's outdoor education program. The case study approach allows me to investigate all aspects of assessment in outdoor education in this program, including the views of both students and teachers. I will be conducting observations of regular class activities, interviewing students and teachers, and analyzing assessment documents such as rubrics and learning objectives.

Your participation would involve allowing me to observe you teaching 3 lessons, participating in an interview of approximately 45 minutes about your assessment philosophies and practices, and providing me with some of the assessment documents that you use in your classroom. The purpose of the observations is to observe how students respond to assessment practices in the normal classroom context. The classroom observations would occur during normal class time and would not disrupt your planned activities for that time. Data would be collected in the form of written notes, and maintained as a computer file. The interview would take place at your school in a location with which you are comfortable, at a time that is convenient to you. The interview would be audio-recorded and transcribed, at which point the audio file would be destroyed. You will have the opportunity to review the interview transcript and remove any portion if you so choose. The documents you would provide would not be used for any purpose other than this research study. None of the data will contain your name or any identifying details, and only the researcher and thesis supervisor will have access to original data containing such details. Data will be secured in a locked office and every effort will be made to maintain confidentiality. Should your school headmaster elect to have the school identified by name in publication, there is the potential for you to be identified as an employee of the school. You will be informed if this is the case, and are free to withdraw your participation if you so choose.

I do not foresee risks in your participation in this study. Your participation is entirely voluntary. You are in no way obliged to answer any questions you find objectionable, and you may request a copy of the interview questions ahead of time if you so choose.

You are free to withdraw from the study without reasons at any point, and you may request removal of all or part of your data.

I intend to publish the findings of the study in professional journals and report them at conferences. At no time will the actual identity of the participants be disclosed. Teachers and students will be assigned pseudonyms and these only will be used in publications.

Should further information be required before you can make a decision about participation, please feel free to telephone me (Annie Casson) at (613)650-1522 or contact me by e-mail at 6aec4@queensu.ca. For questions, concerns or complaints about the research ethics of this study, please contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).

Yours sincerely,

Annie Casson

APPENDIX C: LETTER OF INFORMATION (PARENTS)

LETTER OF INFORMATION

Dear Parent/Guardian:

Your son/daughter is a student in an outdoor education class selected for a research study. This research study is entitled “Assessment in Outdoor Education”. This research is being conducted by Annie Casson as a part of her Master’s thesis, under the supervision of Dr. Lynda Colgan, through the Faculty of Education at Queen’s University, and has been approved by the Queen’s University General Research Ethics Board. The study has the support and approval of [teacher’s name], [principal’s name], and the school board of trustees.

The purpose of this research is to investigate how assessment practices impact students’ experiences in outdoor education. In order to understand what assessment looks like in the context of outdoor education and how it affects students, I will be conducting a case study of the [name of school] outdoor education program. There are two phases to the data collection; observations and interviews. Observations will take place during normal class hours. I will be observing how students respond to assessment practices in their outdoor education classes, and taking notes on their behaviour and responses to the teacher. Students will not be identified by any personal details in these notes, and will be referred to by a pseudonym. I will be interviewing students about their experiences in outdoor education at [name of school]. These interviews will take place before or after classes, in a classroom or common area at school. The interview will last approximately 30 minutes. The interview will be audio-recorded and transcribed, at which point the audio file will be destroyed. Only the researcher and thesis supervisor will have access to identifying details at any time. Names and other identifying features will be replaced by pseudonyms in order to ensure confidentiality. At no time will any of the data be shared with teachers or administrators at your son/daughter’s school.

I do not foresee risks in your son/daughter’s participation in this study. Your son/daughter is in no way obliged to answer any questions he/she finds objectionable, and you may request a copy of the interview questions ahead of time if you so choose.

Agreement on your part to allow your son/daughter to become a part of the study in no way obligates your son/daughter to remain a part of the study. Participation is voluntary, and your son/daughter, or you on their behalf, may choose to withdraw from the study at any time, and request removal of all or part of your data. Further, participation or non-participation will not affect any school mark or report card that your child may receive.

I intend to publish the findings of the study in professional journals and report them at conferences. At no time will the actual identity of the participants be disclosed. Students will be assigned pseudonyms and these only will be used in publications.

Should further information be required, please feel free to telephone me (Annie Casson) at (613)650-1522 or contact me by e-mail at 6aec4@queensu.ca. For questions, concerns

or complaints about the research ethics of this study, please contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).

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Yours sincerely,
Annie Casson

APPENDIX D: LETTER OF INFORMATION (STUDENTS)

LETTER OF INFORMATION

Dear Student:

You are a student in an outdoor education class selected for a research study. This research study is entitled “Assessment in Outdoor Education”. This research is being conducted by Annie Casson as a part of her Master’s thesis, under the supervision of Dr. Lynda Colgan, through the Faculty of Education at Queen’s University, and has been approved by the Queen’s University General Research Ethics Board. The study has the support and approval of your teacher and school.

The purpose of this research is to investigate how assessment practices impact students’ experiences in outdoor education. In order to understand what assessment looks like in the context of outdoor education and how it affects students, I will be conducting a case study of the your school’s outdoor education program. There are three phases to the data collection; observations, interviews, and document analysis. Observations will take place during normal class hours. I will be observing how students respond to assessment practices in their outdoor education classes, and taking notes on their behaviour and responses to the teacher. Students will not be identified by any personal details in these notes, and will be referred to by a pseudonym. I will be interviewing students about their experiences in outdoor education at school. These interviews will take place before or after classes, in a classroom or common area at school. The interview will last approximately 30 minutes. The interview will be audio-recorded and transcribed, at which point the audio file will be destroyed. I will be using student journals and critical reflection exercises that are completed as a part of normal classroom assignments as a third source of data. These documents will be collected from the students at the time of the interview. Only the researcher and thesis supervisor will have access to identifying details at any time. Names and other identifying features will be replaced by pseudonyms in order to ensure confidentiality. Your classroom teacher will be aware of which students are participating in the study, but will not have access to any of the data collected. At no time will any of the data be shared with teachers or administrators at your school.

I do not foresee risks in your participation in this study. You are in no way obliged to answer any questions that you find objectionable, and you may request a copy of the interview questions ahead of time if you so choose.

Agreement on to become a part of the study in no way obligates you to remain a part of the study. Participation is voluntary, and you may choose to withdraw from the study at any time, and request removal of all or part of your data. The decision to withdraw will not result in any negative consequences. Further, participation or non-participation will not affect any school mark or report card that you may receive.

I intend to publish the findings of the study in professional journals and report them at conferences. At no time will the actual identity of the participants be disclosed. Students will be assigned pseudonyms and these only will be used in publications.

Should further information be required, please feel free to telephone me (Annie Casson) at (613)545-3427 or contact me by e-mail at 6aec4@queensu.ca. For questions, concerns or complaints about the research ethics of this study, please contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).

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Yours sincerely,

Annie Casson

APPENDIX E: CONSENT FORM (TEACHERS)

CONSENT FORM

- I agree to participate in Annie Casson’s study entitled “Assessment in Outdoor Education”, conducted through the Faculty of Education at Queen’s University.
- I have read and retained a copy of the Letter of Information, and the purpose of the study has been explained to my satisfaction.
- I have had any questions answered to my satisfaction.
- I understand that my participation involves observation of my classroom on three occasions, a 45 minute audio recorded interview, and the use of assessment documents such as rubrics and learning objectives.
- I understand that I can request a full description of the results of the study once it is completed.
- I understand that the researcher intends to publish the findings of the study.
- I understand that my participation is voluntary, and that I am free to withdraw from the study at any time or request removal of my data without negative consequences.
- I am aware that I can contact the researcher, Annie Casson, by telephone at (613)650-1522 or by e-mail at 6aec4@queensu.ca if I have any questions about this project. I am also aware that for questions, concerns or complaints about the research ethics of this study, I can contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).
- **Please sign one copy of this Consent Form and return to Annie Casson. Retain the second copy for your records.**

I HAVE READ AND UNDERSTOOD THIS CONSENT FORM AND I AGREE TO PARTICIPATE IN THIS STUDY.

Name (Please print): _____

Signature: _____

Date: _____ Telephone number: _____

(Phone number will only be used to cancel/reschedule an interview)

Please write your e-mail or postal address at the bottom of this sheet if you wish to receive a copy of the results of the study.

APPENDIX F: CONSENT FORM (STUDENTS)

CONSENT FORM

- I agree to participate in Annie Casson’s study entitled “Assessment in Outdoor Education”, conducted through the Faculty of Education at Queen’s University.
- I have read and retained a copy of the Letter of Information, and the purpose of the study has been explained to my satisfaction.
- I have had any questions answered to my satisfaction.
- I understand that my participation involves being observed during regular class hours and activities, as well as an interview of approximately 30 minutes about my experiences with assessment in outdoor education programs.
- I understand that the interview will be audio-recorded and transcribed.
- I understand that my identity will be kept confidential, and that I will be referred to by a pseudonym in all recording.
- I understand that I can request a full description of the results of the study once it is completed.
- I understand that the researcher intends to publish the findings of the study.
- I understand that my participation is voluntary, and that I am free to withdraw from the study at any time or request removal of my data without negative consequences.
- I am aware that I can contact the researcher, Annie Casson, by telephone at (613)650-1522 or by e-mail at 6aec4@queensu.ca if I have any questions about this project. I am also aware that for questions, concerns, or complaints about the research ethics of this study, I may contact the Education Research Ethics Board at ereb@queensu.ca or the chair of the General Research Ethics Board, Dr. Joan Stevenson at (613)533-6081 (greb.chair@queensu.ca).
- **Please sign one copy of this Consent Form and return to Annie Casson. Retain the second copy for your records.**

I HAVE READ AND UNDERSTOOD THIS CONSENT FORM AND I AGREE TO PARTICIPATE IN THIS STUDY.

Student’s name (Please print): _____

Student’s signature: _____

Date: _____ Telephone number: _____

(Phone number will only be used to cancel/reschedule an interview)

I HAVE READ AND UNDERSTOOD THIS CONSENT FORM AND I AGREE TO ALLOW MY SON/DAUGHTER TO PARTICIPATE IN THE STUDY.

Signature of parent/guardian: _____

Date: _____

My son/daughter may participate in: observations _____ interviews _____
(Please check those aspects of the study in which your child may participate)

Please write your e-mail or postal address at the bottom of this sheet if you wish to receive a copy of the results of the study.

APPENDIX G: GRADE 9 STUDENT INTERVIEW QUESTIONS

- 1) How do you feel about your OE course so far? (prompts: Likes? Dislikes?)
- 2) Have you participated in any other outdoor programs or activities before?
- 3) What do you think the goals of this course are?
- 4) How did you know that you were doing well or not doing well at meeting the goals of the course?
- 5) Tell me about how you are assessed in this course.
- 6) How do you feel about self assessment?
- 7) How do you feel about peer assessment?
- 8) How do you feel about getting assessed on your practical skills?
- 9) Do you enjoy getting feedback from your peers? Giving feedback?
- 10) Suppose you had to choose a type of assessment for your canoeing unit.
Which type would you choose and why?
- 11) Which types of assessments do you prefer? Why?
- 12) Do you feel that anything in your OE course so far has changed how you feel about yourself? About your abilities?
- 13) Do you think that you will take OE again next year? Why or why not?
- 14) Is there anything else you think I should know about your OE program or the way that you are assessed?

APPENDIX H: SENIOR STUDENT INTERVIEW QUESTIONS

- 1) Why did you decide to take all three OE courses?
- 2) Do you have any other outdoor experiences?
- 3) What are you hoping to get out of this course?
- 4) What do you think are the main goals of the course?
- 5) How do you know if you are doing well in the course?
- 6) Tell me about the ways that you are assessed in OE.
- 7) Which types of assessments do you prefer?
- 8) How did you feel about the assistant instructor audit?
- 9) How did you feel about the crisis management scenario?
- 10) Do you think that it would have been useful to have a test after the audit or the crisis management scenario? Why or why not?
- 11) How have you felt in the past about your grades in OE?
- 12) Has OE affected the way you feel about yourself or your abilities?
- 13) Is there anything else I should know about your OE program or the way that you are assessed?

APPENDIX I: TEACHER INTERVIEW QUESTIONS

- 1) Tell me about your background in teaching and in outdoor education.
- 2) Could you describe the program that you are currently instructing? (prompts: duration, participants, activities, credits assigned)?
- 3) What are the main learning objectives of your program? (prompt: what do you want your students to walk away with when they finish your program?)
- 4) How do you communicate these objectives to your students?
- 5) What types of assessment tools do you use?
- 6) What led you to choose these tools (prompts: time, cost, curriculum constraints, personal preference, experience, etc)?
- 7) Are there any assessment tools that you would like to use but are not currently using? Are there any that you are currently using but would like to replace?
- 8) How do you communicate assessment results to your students?
- 9) How do your students respond to the assessment tools you use?
 - How do they prepare?
 - Do they get nervous or stressed about assessment?
 - How do they react to grades/comments?
 - Do they enjoy any particular types of assessments?
- 10) Does assessment influence the way you teach your program? In what ways?
- 11) What do you believe is the primary purpose of assessing students?
- 12) Are there any questions I should have asked you but did not?

APPENDIX J: SELF ASSESSMENT RUBRIC – GRADE 9

DAILY PARTICIPATION SELF ASSESSMENT RUBRIC

Attendance (5 K)	Seldom on time for class	Arrives at some classes on time	Arrived at most classes on time	Arrived at every class on time
Coming Prepared (5 K)	Seldom prepared for the class activity. Often in classroom dress	Sometimes well prepared for OE. Often with partial classroom dress.	Almost always dressed appropriately and prepared for OE.	Always dressed and prepared appropriately for OE.
Initiative (5 I)	Seldom helps out or shows initiative	Sometimes helps out when volunteers are asked for.	Always helps out when volunteers are asked for to complete a task or contribute.	Jumps at leadership opportunities. Recognizes when things need to be done and does them without being asked.
Effort (5 A)	Rarely follows instructions and has to be asked to focus on a regular basis	Seldom follows instructions the first time. Full potential seldom demonstrated.	Listens and follows instructions well. Working to improve skills. Positive contributions made during activities.	Always listens and follows instructions. Helps to keep peers on task. Provides regular positive contributions.
Group Activities and Discussions (5 C)	Rarely focused on task. Requires constant reminders. Rarely contributes to discussion.	Participates with some focus. Some contributions made during discussion.	Good participation during activity. Good contributions during discussion.	Full participation. Positive, insightful contributions during discussions.
Individual Skills and Tasks (5A)	Often off task and requires many reminders to focus.	Participates at existing level of knowledge and experience. Not showing willingness to improve.	Good participation. Shows a willingness to improve skills.	Works hard to improve skills and expand experiences. Positive peer role model

K = Knowledge/Understanding

I = Thinking/Inquiry

A = Application

C = Communication

APPENDIX K: THREE YEAR OE SKILLS AND ACTIVITIES PLAN

	Grade 9 – Year One	Grade 11 – Year Two	Grade 12 – Year Three
Fall	<ul style="list-style-type: none"> - Low Initiatives Ropes Course - Bush Walk and Map and Compass - Intro to GPS - Overnight experience - Canoeing Tandem Skills - Cookouts 	<ul style="list-style-type: none"> - Low Elements Initiative Course - Orienteering and GPS application - Tower - Canoeing – review tandem skills, solo, tripping - Bancroft Climbing Expedition, geocaching, Rock Museum - Fall Flora and Fauna - Garden - harvest 	<ul style="list-style-type: none"> - High Elements Ropes Course - After Dark Leadership experience - Crisis Managements
Winter	<ul style="list-style-type: none"> - Shelters and Winter Survival - Fire by Friction - Snowshoeing and Map and Compass - Tobogganing - Paddle Building - Plane Crash Simulation 	<ul style="list-style-type: none"> - Nordic skiing - Ice rescue - Tobogganing - Quinzhee (groups) - Wolf Pack 	<ul style="list-style-type: none"> - Nordic skiing - Winter camp - Tobogganing - Winter Flora and Fauna
Spring	<ul style="list-style-type: none"> - Low Elements Initiatives Course - White water canoeing - Overnight experience - Intro to Climbing Tower - First Aid - Spring Flora and Fauna - Garden - plant 	<ul style="list-style-type: none"> - High Elements Ropes Course - Overnight experience - Low initiatives - Canoeing application – teaching tool, wetlands 	<ul style="list-style-type: none"> - Low Element Initiative Course - River Rescue - High Elements Ropes Course - Canoeing – tripping - Leadership co-op experiences

APPENDIX L: GENERAL RESEARCH ETHICS BOARD APPROVAL

August 8, 2008

Anne E. Casson
Master's Student
Faculty of Education
Queen's University

GRER Ref # GEDUC-407-08
Title: "Assessment in Outdoor Education"

Dear Ms. Casson:

The General Research Ethics Board (GREB) has given expedited approval to your proposal entitled "Assessment in Outdoor Education". In accordance with the Tri Council Guidelines (article D.1.6) and Senate Terms of Reference (article G), your project has been approved for one year. At the end of each year, GREB will ask if your project has been completed and if not, what changes have occurred or will occur in the next year.

You are reminded of your obligation to advise the GREB, and Faculty of Education E-REB, of any adverse event(s) that occur during this approval period (details available on our webpage: www.queensu.ca/ep/greb/addforms.html#Adverse). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that any adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be approved by the GREB. Examples of required approvals are: changes in study procedures or implementations of new aspects into the study procedures that affect human subjects. These changes must be sent to Linda Frid at the Office of Research Services or LFRIDL@queensu.ca prior to implementation. Ms. Frid will seek the approval of the GREB Chair and/or the reviewer(s) who originally assessed your application.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Yours sincerely

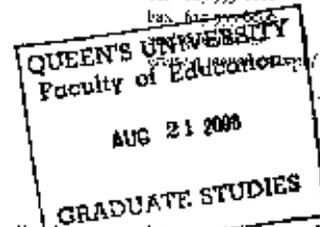
GREB Chair
For: Leigh Turner
Member,
General Research Ethics Board

LEB

Copy: Chair of E-REB: Don Klinger
Faculty Supervisor: Lynda Colgan
Graduate Studies and Bureau of Research, Angelina Gonnarelli



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