

ANTICIPATED EDUCATIONAL OUTCOMES: A CASE STUDY OF THE OUTDOOR RECREATION CONSORTIUM EXPERIENCE

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Abstract.—This paper reports on a case study of an outdoor experiential learning program and examines its meaning for program participants. The research was conducted with 56 university students who participated in the Outdoor Recreation Consortium held at the Great Smoky Mountain Institute in Tremont, TN. A mixed-method comparative research approach, using both quantitative and qualitative data collection, was adopted. This research demonstrates that qualitative data not only support the findings from quantitative data but also provide additional insight into participants' learning experiences and emphasize the value of adventure programs to individuals. Additionally, the results indicate that outdoor education programs offering more practical hands-on experiences are highly desired.

1.0 INTRODUCTION

Outdoor experiential education programs have been widely adopted and implemented in North America as a method of facilitating students' involvement with their local community, applying course content in the real world, and improving the link between the campus and the broader community (Astin, 1996; Giles & Eyler, 1994). In the past decades, a number of researchers have attempted to identify the outcomes of outdoor experiential education programs. Those studies on the programs' outcomes have focused on

personal growth obtained from direct experiences (Burnard, 1991; Dewey, 1938; Gass, 1993; Rogers, 1961), interpersonal development (Hopkins & Putnam, 1993; Richards, 1994; Schoel, Prouty, & Radcliffe, 1988), and change at both individual and group levels from various backgrounds and environmental settings (Cason & Gillis, 1994; Hans, 2000; Hattie, Marsh, Neill, & Richards, 1997).

To justify prescribed outcomes of experiential education programs, quantitative course evaluation has been frequently adopted in the previous research on experiential learning (Cason & Gillis, 1994; Hattie, Marsh, Neill, & Richards, 1997). However, such overemphasis on quantifiable educational outcomes overlooks the subjective nature of the learning experience and limits the range of educational outcomes considered (Greenaway, 1995; McKenzie, 2003). Due to the subjective nature of participants' experiences, more qualitative approaches should be adopted to understand the complex processes involved in experiential education (Allison & Pomeroy, 2000). This study aims to explore the meaning of outdoor experiential learning programs from the program participants' perspective by utilizing a case study approach.

2.0 THEORETICAL BACKGROUND

Experiential education programs have been widely developed and implemented in modern society. The philosophical principle that serves as a foundation for developing and implementing these programs is Dewey's theory of experiential learning (Dewey, 1938). Dewey's theory is built upon the belief that people understand and interpret educational experiences based on their own narratives (life experiences) and perceptions, which differ from person to person. Therefore, the role of an educator is not to fill students with knowledge but to help learners gain access to a learning environment and assist them in exploring, contemplating, and solving

problems to achieve personal growth and interpersonal development. In other words, Dewey's experiential learning theory emphasizes the importance of learners' personal background and the complexity of learners' perceptions of educational outcomes.

Dewey also theorizes that learning outcomes are mainly impacted by two constructs: the current knowledge of the learner, and the educator's presentation of the content and experience (Dewey, 1938). The learner's current knowledge serves as the beginning of the experiential learning process and refers to what learners know from their previous experiences. Different previous experiences result in a discrepancy in the level of current knowledge which in turn affects the learner's perception and interpretation of learning outcomes. Teachers' presentations of content and experience include traditional classroom presentations and nontraditional procedures, such as outdoor experiential education programs. However, unlike didactic education that sees the learner as a passive object that is filled with knowledge presented by the teacher, experiential education regards the learner as an active subject who is assisted by a teacher in exploring knowledge. Therefore, learners are a significant actor in the experiential learning process and their initiative plays an important role in the materialization of learning outcomes.

From the above illustration of factors affecting learning outcomes and characteristics of experiential education, we can see how varied the learners' understanding of learning outcomes is and how research is necessary to examine the meaning of learning experience from the learners' perspective. However, in the past research on experiential education, researchers have focused on examining whether experiential education works. For instance, Hattie, Marsh, Nerill, and Richards (1997) and Neill and Richards (1998) attempted to identify whether outdoor education really works by utilizing meta-analysis. Such research is not unimportant, but the experience of participants in experiential education programs is ignored. In particular, such research cannot answer some critical questions, such as, how can a person judge that a program works, and who

can make such a judgment? What if participants' perceptions of positive education outcomes do not match the criteria for the success of program? Does this mean that the program is not successful?

It has been argued that research merely focusing on whether the program works is more damaging to the field of experiential learning than it is helpful (Allison & Pomeroy, 2000), because such research ignores the complexity and subtlety of the experiential studies. Ironically, if the experiential education field aims at assisting learners in understanding the world around them in their own way, how can we verify, in the traditional way, that this is taking place? Therefore, there is a need to "shift the focus of the questions asked (epistemological shift)" in order "to understand reality in a different way (ontological shift)" (Allison & Pomeroy, 2000, p. 96). In other words, there is a need to recognize the subjective nature of participants' experiences and utilize more qualitative approaches to understanding the complex processes involved in experiential education.

This study explores the meaning of outdoor experiential learning programs from the program participants' perspective by utilizing a case study approach. Several key research questions are addressed: (1) is there any significant difference in education outcomes between a pretest and post-test of outdoor education programs?; (2) do the education outcomes differ among participants based on their socio-demographic characteristics?; (3) how do participants perceive their outdoor experiential education program and its outcomes?

3.0 METHODS

The study involves 56 college students from five U.S. institutes participating in the Outdoor Recreation Consortium held at the Great Smoky Mountain Institute in Tremont, TN between March 19 and March 25, 2006. A mixed-method comparative research approach, using both quantitative and qualitative data collection, was used. Data collection involved the administration of a questionnaire by the institute staff on the first and the last day of the consortium. The

pretest questionnaire was composed of 11 experiential learning benefits statements with a 5-point scale (1=strongly disagree, 5=strongly agree) and participants' socio-demographic information, as well as two open-ended questions focusing on participants' purpose for participating in the consortium. The post-test questionnaire consisted of the same 11 benefits statements and open-ended questions about participants' perceptions of their consortium experiences.

4.0 FINDINGS AND DISCUSSION

Fifty-six usable pretest questionnaires were returned for a response rate of 100 percent. Among the participants who returned the survey, 44.6 percent are females and 55.4 percent are males. Almost all the participants are Caucasians (96.4 percent), the rest are Hispanics (3.6 percent). About three-fourths of participants are undergraduate college juniors (23.2 percent) and seniors (48.2 percent), with about 20 percent graduate students and a few sophomores (5.4 percent) and freshmen (1.8 percent). The majority of participants are majoring in a field related to leisure and recreation (87.5 percent), with other majors including law (1.8 percent), forest biology (1.8 percent), geography (1.8 percent), landscape architecture (3.6 percent), political science (1.8 percent), and rural sociology (1.8 percent). The most popular special interest tracks selected by participants included backcountry management (37.5 percent) and wildlife management (35.7 percent), followed by ecological restoration (14.3 percent) and historical/cultural interpretation (12.5 percent). Lastly, 80.4 percent of participants claimed that they have taken outdoor recreation courses before (see Table 1).

The use of parametric statistics (paired-sample t-test, independent t-test, and one-way ANOVA) to test whether there were significant differences in the mean values of benefits statements between the pretest and the post-test and between anticipated and perceived benefits from the consortium based on various socio-demographic variables is based on the assumption that the data were a sample from a normal distribution. This assumption was tested with Shapiro-Wilk's

Table 1.—Characteristics of respondents

Variable	%
Gender (n=56)	
Female	44.6
Male	55.4
Ethnicity (n=56)	
Caucasian	96.4
Hispanic	3.6
The year at school (n=56)	
Freshmen	1.8
Sophomore	5.4
Junior	23.2
Senior	48.2
1st year graduate student	8.9
2nd year graduate student	7.1
3rd year graduate student	0.0
4th year graduate student	5.4
Major of study (n=56)	
Crime law justice	1.8
Forest biology	1.8
Geography	1.8
Landscape architecture	3.6
Political science	1.8
Rural sociology	1.8
Leisure and recreation	87.5
Interest track (n=56)	
Backcountry management	37.5
Ecological restoration	14.3
Historical/cultural	12.5
Wildlife management	35.7
Outdoor recreation course (n=56)	
Yes	80.4
No	19.6

and K-S Lilliefors tests. However, the test results indicated that the data were not normally distributed. Therefore, nonparametric techniques, including the Wilcoxon paired signed rank test, Mann-Whitney U test and Kruskal-Wallis test, were used. As indicated in Table 2, the Wilcoxon paired signed rank test results demonstrated that the paired differences of statements 1, 2, 4, 7, 8, and 11 were significant. Additionally, the paired differences of statements 2, 8, and 11 were positive, while the paired differences of statements 1, 4, and 7 were negative.

The results of the analysis show that participants perceived that they benefited from consortium experience more than they expected with regards to confirming their choice of study, providing

Table 2.—Wilcoxon signed rank test results for paired differences of benefits statements

Statements	N	Mean rank	Sum of ranks	P
1. Helping in gaining practical hands-on experience related to a field of interest.	48			.006
Pre-test < Post-test: Negative Ranks	16	10.75	172.00	
Pre-test > Post-test: Positive Ranks	4	9.50	38.00	
Pre-test = Post-test: Ties	28			
2. Assisting in confirming my choice of study or in choosing my major.	9			.021
Pretest < Post-test: Negative Ranks	11	13.50	148.50	
Pretest > Post-test: Positive Ranks	21	18.07	379.50	
Pretest = Post-test: Ties	17			
3. Helping define long-term career goals.	49			.229
Pretest < Post-test: Negative Ranks	14	14.57	204.00	
Pretest > Post-test: Positive Ranks	18	18.00	324.00	
Pretest = Post-test: Ties	17			
4. Offering rewarding and skill-building opportunities.	49			.000
Pretest < Post-test: Negative Ranks	24	15.08	362.00	
Pretest > Post-test: Positive Ranks	4	11.00	44.00	
Pretest = Post-test: Ties	21			
5. Providing a cross-functional educational approach with school and actual work sites.	49			.320
Pretest < Post-test: Negative Ranks	14	13.07	183.00	
Pretest > Post-test: Positive Ranks	10	11.70	117.00	
Pretest = Post-test: Ties	25			
6. Assisting me by using personal assessment to identify interests, aptitudes, values, & strength to recognize a potential career field of interest.	48			.916
Pretest < Post-test: Negative Ranks	13	13.19	171.50	
Pretest > Post-test: Positive Ranks	13	13.81	179.50	
Pretest = Post-test: Ties	22			
7. Building transferable skills that are valuable in any job opportunity.	48			.000
Pretest < Post-test: Negative Ranks	23	15.26	351.00	
Pretest > Post-test: Positive Ranks	5	11.00	55.00	
Pretest = Post-test: Ties	20			
8. Providing opportunities to discuss work scenarios in the classroom for discussion.	48			.044
Pretest < Post-test: Negative Ranks	8	17.44	139.50	
Pretest > Post-test: Positive Ranks	22	14.80	320.50	
Pretest = Post-test: Ties	18			
9. Providing a chance to speak to and network with professionals in the world of work.	48			.212
Pretest < Post-test: Negative Ranks	21	16.52	347.00	
Pretest > Post-test: Positive Ranks	12	17.83	214.00	
Pretest = Post-test: Ties	15			
10. Learning about occupations and career paths.	48			.134
Pretest < Post-test: Negative Ranks	10	10.85	108.50	
Pretest > Post-test: Positive Ranks	15	14.43	216.50	
Pretest = Post-test: Ties	23			
11. Confirming personal values for attributes of work – how salary, prestige, autonomy, & social aspects will factor into future employment decisions.	48			.045
Pretest < Post-test: Negative Ranks	10	17.30	173.00	
Pretest > Post-test: Positive Ranks	23	16.87	388.00	
Pretest = Post-test: Ties	15			

opportunities to discuss work scenarios in the classroom, and confirming personal values for attributes related to work. Contrarily, participants deemed the consortium experience was less beneficial than they expected with regards to gaining practical hands-on experience related to a field of interest, offering rewarding and skill-building opportunities, and building transferable skills that are valuable in any job opportunity.

Such results indicate that participants have relatively high levels of expectation about earning practical experiences by participating in consortium; therefore, it might be possible to improve participants' consortium outcomes by arranging more practical programs for participants. At the same time, participants recognized the significant benefits of the consortium in helping them make a link between their college studies and the real world. These findings are consistent with the results reported in the previous research in this field (Cason & Gillis, 1994; Hans, 2000; Martin & Legg, 2002).

After examining the significance of paired differences in benefit statements between the pretest and the post-test, we also examined the differences between anticipated and perceived benefits from the consortium based on various socio-demographic variables. In this research the socio-demographic variables included gender, ethnicity, outdoor recreation course, the year at school, major, and interest track. With regard to ethnicity, there were not enough cases for testing the differences in perceptions of benefits obtained from consortium.

In order to find whether there were significant differences in perceptions of consortium benefits between undergraduate students and graduate students, as well as between the participants with leisure related majors and those with other majors, 'year at school' data were recoded with "0" representing undergraduate students and "1" representing graduate students, and the data on participants' major were recoded with "0" representing other majors and "1" representing leisure and recreation-related majors.

First, the Mann-Whitney U test was run to examine the differences of benefit statements among dichotomous variables including gender, outdoor recreation course, the year at school, and major. The test results indicated that there were no significant differences in paired benefit statements between males and females, between the participants having taken outdoor recreation courses and those not having taken such courses, and between the participants with other majors and those with leisure related majors. Nevertheless, as shown in Table 3, there were significant differences in benefit statements between undergraduate students and graduate students. Those benefits include offering rewarding and skill-building opportunities and building transferable skills that are valuable in any job opportunity.

Such results indicated that within these two perspectives of benefits, the differences between anticipated benefits and benefits obtained from the consortium were more substantial for graduate students than they were for undergraduate students. In other words, graduate students appeared to be more aware of gaining these benefits than undergraduate students. This finding suggests that consortium instructors should pay more attention to designing programs with different emphases for graduate students and undergraduate students in the future development of the consortium.

Next a Kruskal-Wallis test was run to identify whether there were significant differences in the benefits statements based upon the participants' interest tracks. As shown in Table 4, the test results indicated that participants in the ecological restoration track had a higher paired difference value than participants in the historical/cultural track for the benefit statement about rewarding and skill-building opportunities. This result revealed that participants in the ecological restoration track were more aware of gaining this benefit than the participants in the historical/cultural track.

Besides socio-demographic variables and benefits statements, some open-ended questions were also included in both the pretest and post-test surveys.

Table 3.—Mann-Whitney test results for paired differences of benefits statements between undergraduate students and graduate students

Statements	Student status					
	Undergraduate			Graduate		
	N	Mean rank	Sum of ranks	N	Mean rank	Sum of ranks
Helping in gaining practical hands-on experience related to a field of interest	38	23.11	878.00	10	29.80	298.00
Assisting in confirming my choice of study or in choosing my major	38	24.79	942.00	11	25.73	283.00
Helping define long-term career goals	38	26.49	1006.50	11	19.86	218.50
Offering rewarding and skill-building opportunities	38	22.63*	860.00*	11	33.18*	365.00*
Providing a cross-functional educational approach with school and actual work sites	38	23.39	889.00	11	30.55	336.00
Assisting me by using personal assessment to identify interests, aptitudes, values, & strength to recognize a potential career field of interest	38	25.04	951.50	10	22.45	224.50
Building transferable skills that are valuable in any job opportunity	38	21.97*	835.00*	10	34.10*	341.00*
Providing opportunities to discuss work scenarios in the classroom for discussion	38	23.29	885.00	10	29.10	291.00
Providing a chance to speak to and network with professionals in the world of work	38	24.55	933.00	10	24.30	243.00
Learning about occupations and career paths	38	25.03	951.00	10	22.50	225.00
Confirming personal values for attributes of work—how salary, prestige, autonomy, and social aspects with factor into future employment decisions	38	23.45	891.00	10	28.50	285.00

*p < 0.05

There were two open-ended questions in the pretest survey dealing with participants' reasons for participating in the consortium. After analyzing the replies, three major themes were identified. The first theme was to experience fun and enjoyment. For example, some respondents wrote "To have fun, and see the outdoors." The second theme was to learn and get more familiar with outdoor recreation. For instance, one person wrote about "the basic understanding of the implementation of plans for parks." The last theme was pragmatism, reflecting purposes for participating in the consortium that were not directly related to outdoor recreation. For example, some respondents participated in the consortium to obtain two course credits or because they were "helping to drive the van."

The open-ended questions in the post-test survey focused on participants' perceptions of educational

outcomes. Participants' replies indicated that they recognized benefits of the consortium such as becoming familiar with a future career ("It has helped to show me some career information about the NPS"), establishing social networks ("Meeting new people"), enriching knowledge related to outdoor and recreation ("Increase in knowledge of outdoor issues, such as leave no trace and erosion"), and improving personal well-being ("The waterfall made me more humane. I made a poem for it, and felt wonderful to be able to share my final thoughts with everyone who contributed to them"). Such replies support the notion that experiential education leads to personal growth (Hopkins & Putnam, 1993; Martin & Legg, 2002).

Participants also pointed out some anticipated outcomes that were not achieved through participating in the consortium. For example, some hoped to obtain more hands-on experience and have more contacts

Table 4.—Kruskal-Wallis test results for paired differences of benefits statements among participants in different interest tracks

Statements	Interest tracks							
	Backcountry management		Historical/cultural		Ecological restoration		Wildlife management	
	N	Mean rank	N	Mean rank	N	Mean rank	N	Mean rank
Helping in gaining practical hands-on experience related to a field of interest	18	27.39	7	21.50	8	25.38	15	21.97
Assisting in confirming my choice of study or in choosing my major	19	25.32	7	23.43	8	26.00	15	24.80
Helping define long-term career goals	19	29.18	7	17.29	8	22.81	15	24.47
Offering rewarding and skill-building opportunities	19	24.32	7	17.71*	8	36.13*	15	23.33
Providing a cross-functional educational approach with school and actual work sites	19	25.29	7	25.50	8	29.13	15	22.20
Assisting me by using personal assessment to identify interests, aptitudes, values, & strength to recognize a potential career field of interest	18	24.69	7	20.21	8	21.88	15	27.67
Building transferable skills that are valuable in any job opportunity	18	29.53	7	18.07	8	22.69	15	22.43
Providing opportunities to discuss work scenarios in the classroom for discussion	18	28.61	7	20.00	8	17.88	15	25.20
Providing a chance to speak to and network with professionals in the world of work	18	26.00	7	26.36	8	18.44	15	25.07
Learning about occupations and career paths	18	28.72	7	20.43	8	17.31	15	25.17
Confirming personal values for attributes of work—how salary, prestige, autonomy, and social aspects with factor into future employment decisions	18	22.61	7	22.64	8	26.50	15	26.57

*p < 0.05

with professionals (“More insight into field”) and more social interactions with other participants (“Getting close with classmates”). Such participants’ comments highlighted the roles of instructors and peers in the learning process, and also resonated the findings in the previous research supporting these important outcomes (e.g. Hattie et al., 1997; Luckner and Nadler, 1997; Martin and Legg, 2002; Phipps and Claxton, 1997).

5.0 CONCLUSIONS

As identified in the previous research based on quantitative data, the outdoor experiential education program examined in this research helps participants achieve personal growth, although some prescribed outcomes were not fully achieved as much as participants had expected. Furthermore, in this study,

qualitative data not only supported the findings from the quantitative analysis but also provided additional insight into participants’ learning experiences, which go beyond the analysis of educational outcomes at the quantitative level and emphasize the value of adventure programs to individuals. Additionally, the results of this research indicate that consortium organizers should consider improving their program by helping participants gain practical skills. In particular, they should try to offer new opportunities to graduate students and those with outdoor education experience. Concerning the limitation of this research in terms of the number of participants, further research with a larger study group would be desirable to support these conclusions.

6.0 CITATIONS

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