

## ABSTRACT

READER, K. A. Ropes course universality. MS in Exercise and Sport Science-Special Physical Education, December 1996, 61pp. (P. DiRocco)

Ropes courses throughout the U. S. (N=102) were surveyed to determine if they accommodated people with disabilities from the standpoint of attitude, program, and structure (universality). A questionnaire consisting primarily of Likert-type questions was used to establish baseline data on the current universality of surveyed ropes courses. Questions on the five separate components in Sugerman's Model of Universality were used to determine total universality. These components included: resource information, personal attitudes, provision of information, structural accessibility, and program implementation. Results indicated that most respondents had very positive attitudes towards including people with disabilities on the ropes courses. Respondents tended to perceive their courses as structurally accessible to people with physical limitations with the exception of people who used wheelchairs. Results indicated that staff training and available resources were not being utilized by many courses to enhance universality. Information on how to include people with physical disabilities on ropes courses (in the form of resources, training, workshops, and inservices) needs to be developed and readily available to facilitators and directors.

ROPES COURSE UNIVERSALITY

A MANUSCRIPT STYLE THESIS PRESENTED

TO

THE GRADUATE FACULTY

UNIVERSITY OF WISCONSIN-LA CROSSE

IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE

MASTER OF SCIENCE DEGREE

BY

KAREN READER

DECEMBER 1996

COLLEGE OF HEALTH, PHYSICAL EDUCATION, AND RECREATION

UNIVERSITY OF WISCONSIN-LA CROSSE

THESIS FINAL ORAL DEFENSE FORM

Candidate: Karen Anne Reader

We recommend acceptance of this thesis in partial fulfillment of this candidate's requirements for the degree:

Master of Science in Exercise and Sport Science - Special Physical Education

The candidate has successfully completed the thesis final oral defense.



Thesis Committee Chairperson Signature

8/1/96

Date



Thesis Committee Member Signature

8/1/96

Date

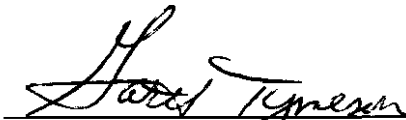


Thesis Committee Member Signature

8/1/96

Date

This thesis is approved by the College of Health, Physical Education, and Recreation.



Associate Dean, College of Health,  
Physical Education, and Recreation

11-18-96

Date



Dean of Graduate Studies

1 December 1996

Date

## ACKNOWLEDGMENTS

I would like to extend my sincere appreciation to the many individuals who took the time to complete the survey and for their valuable input.

I would like to thank my committee members, Dr. Patrick DiRocco, Dr. Sara Sullivan, and Dr. Jeff Steffen, for their commitment and flexibility over the past several months: Dr. DiRocco, for allowing me the latitude to pursue this area of interest, and for spending considerable time in discussions regarding this study; Dr. Sullivan, for ensuring clarity in the many facets of this work; and Dr. Steffen whose problem solving, contacts, and endless energy helped my ideas become a reality.

This study would have been impossible without the assistance of several key players in the field of adventure education. Jeff Boache of ABBE designs, whose proactive approach and commitment to universal design was instrumental in the success of the study. Tim Kempfe, Jimmy and Michelle Ligget, and Bobby Todd for taking time from busy schedules to help me with the study. Deborah Sugerman of Unity College, for her enthusiasm and encouragement, and for giving me the framework on which to base this study.

I would like to thank Suzy Ross who unknowingly inspired me to do this project; Mary Graumann and Sandy Sieber in Wittich Hall; and Dwight, Paul, Lisa, and Sue, for their constant encouragement and belief in me. In closing, the last words of gratitude go to my incredible parents, Phil and Laila.

TABLE OF CONTENTS	PAGE
ACKNOWLEDGMENTS.....	iii
LIST OF TABLES.....	vi
LIST OF APPENDICES.....	vii
INTRODUCTION.....	1
METHODS.....	6
Survey Respondents.....	6
Instrumentation.....	8
Questionnaire Administration.....	10
Data Analysis.....	11
Section I.....	11
Section II.....	12
Section III.....	13
RESULTS.....	13
Section I.....	13
Question One.....	13
Question Two and Three.....	18
Question Four.....	21
Section II.....	22
Question One.....	23

	PAGE
RESULTS (CONTINUED)	
Question Two.....	24
Question Three.....	25
Section III.....	25
Question One.....	25
DISCUSSION.....	26
CONCLUSION.....	36
REFERENCES.....	39
APPENDICES.....	41

## LIST OF TABLES

TABLE	PAGE
1. Ropes course respondents according to geographical location.....	7
2. Ropes course respondents according to owner.....	8
3. Ropes course respondents according to primary usage.....	9
4. Resource information question responses.....	14
5. Personal attitude question responses.....	15
6. Provision of information section question responses.....	16
7. Structural accessibility section question responses.....	18
8. Program implementation question responses.....	19
9. Mean scores for the individual sections of universality and total universality.....	20
10. Correlation results between the five section of universality.....	22
11. Facility accessibility responses.....	23
12. Course structure accessibility.....	24
13. Course surfaces.....	25
14. Technical adaptation accessibility.....	26
15. Consensus of ‘universal’ low elements.....	27
16. Consensus of ‘universal’ high elements.....	28

## LIST OF APPENDICES

APPENDIX	PAGE
A. Ropes Course Questionnaire . . . . .	41
B. Cover Letter . . . . .	46
C. Follow-up Letter . . . . .	48
D. Review of Related Literature . . . . .	50



## INTRODUCTION

*...the best and deepest moral training is precisely that which one gets through having to enter into proper relations with others in a unity of work and thought.*

*John Dewey, 1897.*

Universality is the coming together of attitude, programming, and structure, such that individual differences are at once appreciated and a 'nonissue'. Universality is an important notion within adventure activities and implies creating experiences that embrace individual differences from the standpoint of attitude, programming, and structure (Terry, 1995). Essentially, universality refers to creating recreational and educational programs that holistically include people with and without disabilities. In many adventure programs, universality developed before government legislation made accessibility a legal requirement for all public accommodations (Frant, Roland, & Schempp, 1982; Havens, 1992; Roland & Havens, 1982). Since the legislation was passed, universality seems to have developed alongside the law.

Adventure encompasses many different activities, the ropes course being only one example of adventure. Addressing accessibility or universality of ropes courses is one step in making adventure accessible for all.

The ropes course is an adventure tool that can be used for several different purposes in many different settings. Ropes courses are built indoors or outdoors, and can be made out of telephone poles, or be created out of trees in a natural surrounding. The course itself consists of high and low activities constructed of cables, ropes, and wood,

that provide a number of experiences for participant groups (Webster, 1989). Participant groups are presented with initiatives or problems in a prescribed sequence that will ideally teach participants responsibility within a group environment. The activities are also designed in a specific sequence aimed at taking individuals and groups beyond their own expectations.

Use of the ropes course provides a relatively easy adventure activity to access for all types of different groups and individuals. The ropes course has some unique attributes which make it an excellent start for making adventure universal. Courses are located in many different settings and offer an inner-city solution to adventure. Ropes courses can be accessed by schools, hospitals, camps, universities, corporate groups, and other consumer groups. The goals of building awareness, trust, enhancing self-concept, and team building have applications to many different groups. The participants do not need to possess special skills or own special equipment, and in this way, the course is a very equalizing experience.

Physical education teachers, therapeutic recreation specialists, and facilitators agree on the unique outcomes of adventure experiences such as a facilitated ropes course sequence. Specifically, adventure can be used as a medium to access and promote positive self-concept (Mobley & Marlow, 1987), development of self-reliance, self-discipline, judgment, and responsibility (Keighley, 1993), and offer the potential for growth in physical, emotional, and intellectual domains (McAvoy & Dustin, 1986).

Many of the basic goals and philosophies of an adventure experience via the ropes course are closely aligned with the ideals of universality. One of the overriding goals of low ropes course initiatives is for the group to move and act as a unified body throughout the activity (Johnson, 1992). This goal lends itself to a universal philosophy by equalizing experiences for all participants regardless of ability level.

The 'challenge by choice' (Rohnke, 1989) principle that is often adopted during ropes course activities is an important tenet specifically designed to ensure that participants are working within their own limits. The norm of challenge by choice holds the individual responsible for defining the edge on which they participate. Challenge by choice is also closely aligned with the philosophy of universality in that within the overriding goal of unity, there is an implied unconditional respect for personal expression through movement. Challenge by choice accepts differences and integrates them into the group as additional challenges for meeting specified goals.

Ropes course activities tend to be noncompetitive, the focus being on cooperation and trust between participants. Development of cooperation and trust as a specific objective serves to break down barriers between and within individuals, and also help participants to realize the different abilities within a particular group. In addition, the unique benefits from experiences on the ropes course are well-suited to a population that is often undermined by society's general lack of tolerance for individual differences. Practically speaking, the ropes course is in many ways, inherently universal.

Deborah Sugerman (1995) offered a model of universality (see Figure 1) which views the development of universality in ropes courses as being essentially a sequential process. In her model, Sugerman breaks down the three aspects of universality (attitude, programming, and structure) into five interrelated principles. The five principles include: 1. Development of a resource base, 2. Addressing of personal attitudes, 3. Provision of information on disabilities, 4. Making necessary adaptations, and 5. Program implementation. The model assumes that staff training and awareness are the fundamental building blocks to creating universal access to the ropes course. According to Sugerman's model, the five principles need to be present in order to reach the ideal of universality.

Over the past 20 years, a number of significant events throughout the U.S. have seen the ropes course changing in order to increase its availability to all people (Roland, 1992). If the trend continues, ropes courses should be evolving towards one design, or universality.

The notion of accessibility has long been referred to in the literature. However, aside from the initial documentation of accessible ropes courses (Roland, 1984; Roland & Havens, 1982), there has been very little documented as to the current trends in the attitudes, programming, and structure that exist to include people with disabilities on ropes courses. In order to move forward, towards one design, it is first necessary to determine the current trends in ropes course universality. An important place to begin enhancing universality and identifying future directions for growth, is through an

<p><u>Development of a resource base.</u> Involves the acquisition of resources about people with disabilities such as books, monographs, and articles which can be accessed by all facility staff. Staff access to the internet and resource people are examples of office resources.</p>
<p><u>Addressing of personal attitudes.</u> Involves deliberate addressing of staff concerns, fears, and feelings regarding working with people who have different needs.</p>
<p><u>Provision of information on disabilities.</u> Involves staff training in the many areas which help optimize service delivery to people with a disability. Information about common disabilities; general limitations; specific skills; and etiquette is disseminated to all staff members. Staff is involved in on-going inservice training on adaptations, new activities, and initiatives.</p>
<p><u>Making necessary adaptations (structural accessibility).</u> Involves the ability of staff to make adaptations to include people with disabilities in a ropes course experience. The course needs to be structurally accessible to people with a wide range of capabilities; and the staff rehearses how to optimize the structure to include all people.</p>
<p><u>Implementation.</u> Involves using the knowledge and staff abilities to actively include people with disabilities on the course. Dimensions of this factor include facility welcoming and inviting of diverse groups to participate; utilization of community resources; and effectively implementing technical adaptations.</p>

Figure 1. Sugerman's model of universality

exploration of current status. By gathering baseline data on the status of ropes courses, future directions for builders, researchers, educators, facilitators, and facility directors will likely emerge. The novelty of this type of assessment of ropes course and facilitators points to many exciting directions for research. Furthermore, the applicability of a model of universality such as Sugerman's needs to be explored.

The primary purpose of this study was to assess universality among surveyed ropes courses using Sugerman's model. The survey aimed to collect baseline data on the current status of ropes courses in terms of their universal accessibility to people with physical disabilities. The secondary purposes of the study were to synthesize from the survey responses a list of low and high elements that had been used in universal programming, and determine what the needs of ropes course directors and facilitators were in terms of enhancing universality.

## METHODS

### Survey Respondents

Survey respondents were directors or facilitators at the course to which the questionnaire was mailed. A total of 262 questionnaires were distributed and 102 completed surveys were returned to the researcher yielding a return rate of 39%. Responses were received from 25 states, with the majority of responses coming from the midwest and south. Fifty-four responses (53%) were received from midwestern states; 25 responses (27%) from the southern states; 13 (11%) from those states in the central and

western portions of the country; and 10 responses (9%) were received from the eastern states. The geographical locations of the surveys received are presented in Table 1.

Table 1. Ropes course respondents according to geographical location ( $N = 102$ )

Region	N
Midwest	54
South	25
Central/West	13
East	10

The majority of responses were from outdoor courses (87%), and 15 surveys (12%) were received from indoor courses. Most courses were built after 1990; the most recent was built at the beginning of 1996; and the oldest course recorded was built in 1965. Seventy-three courses (72%) were built after 1990; 11 (11%) did not report year of course construction; 10 (10%) reported being built between 1985 and 1990; and the remainder of courses (7%) were built before 1985. The ropes courses surveyed were owned by a variety of institutions including school districts (30%), camps (18%), private-unspecified (16%), hospitals (14%), universities (13%), park districts (2%), and ‘other’ (7%) which included churches and adventure organizations. Table 2 displays the frequencies of ropes course respondents according to type of owner.

Table 2. Ropes course respondents according to owner (N = 102)

Owner	N
School District	30
Camp	18
Private (unspecified)	17
Hospital	14
University	13
Park District	2
Other	8

Respondents were also asked to comment on the kinds of groups that primarily used their course. Most of the courses (71%) reported that their facility was used by a combination of groups including educational, therapeutic/treatment, and/or corporate groups. Twenty-two percent of the courses reported being used primarily for education; 4% were used for corporate; and 4% reported therapy as being the primary use of their course. Table 3 lists the frequencies of ropes course respondents according to primary usage.

### Instrumentation

A survey (see Appendix A) was developed according to the five steps outlined in Sugerman's Model of Universality (see Figure 1). The survey consisted of Likert type



Table 3. Ropes course respondents according to primary usage (N = 102)

Primary Usage	N
Combination	72
Educational	22
Therapy	4
Corporate	4

questions in each of the five sections. The total desirable score for each section was 40, with the highest possible total survey score being 200. In order to determine the presence of specific structural aspects of the ropes courses surveyed, a series of check response questions were also included in the survey. The final portion of the survey was open-ended and designed to gain information regarding specific high and low elements currently being used by facilitators to include people with physical disabilities.

The instrument was validated by a number of experts in the field of ropes course administration, construction, and facilitation. Builders, directors, and facilitators were asked to comment on the format, content, and clarity of the questionnaire items and the survey itself. Deborah Sugerman also reviewed the questionnaire and agreed that the items and format were consistent with her model, and that the survey did have potential to assess universality of ropes courses.

### Questionnaire Administration

A listing of ropes course addresses was obtained from a number of sources including builders and professional membership directories. A number of ropes course builders located primarily in the midwest and south agreed to provide the researcher with a randomly selected listing of course names and addresses. Packages were distributed through the mail to all of the identified ropes courses. Packages contained a cover letter (see Appendix B), one survey (see Appendix A), and a self-addressed, stamped envelope. Surveys were numbered and referenced with corresponding addresses in order to follow-up on unreturned surveys, and track geographical location of returned surveys.

The cover letter outlined the purposes of the study and indicated the names of contact people. The letter informed the participant that by completing and returning the survey to the researcher, consent was given to the researcher to use the information contained in the survey for the purposes of the study. Participants were informed that their responses would be confidential. Participants were asked to complete the survey and return it to the researcher within a week of receiving the survey.

Follow-up cards (see Appendix C) were sent 14 days after the initial mailing date. This second mailing did not include an additional survey, and was simply a reminder to potential participants to return their survey in order to be included in the study. Cards were sent to 50 ropes courses in geographical locations which tended to be underrepresented at that stage of data collection.

### Data Analysis

A number of questions were asked in order to reduce the data collected. The survey was divided into three separate sections for analysis: (1) current universality according to Sugerman's model (total and sums for each of the five sections), (2) accessible facility, structural, and technical attributes of surveyed courses, and (3) reported high and low elements that were reported to lend themselves to including people with disabilities. SPSS for Windows 6.0 was used to analyze the data and answer the following specific questions.

#### Section I

1. What identified factors within universality were present among surveyed courses?

Respondents were asked to agree or disagree with statements according to relevance to their ropes course. This analysis served to describe the presence of the 40 identified factors of universality.

2. What were the individual scores for each of the five sections of universality? The 40 factors identified in Question 1 (above) were subdivided into five groupings (each section contained 8 factors). These five sections were: (1) Resource Information, (2) Personal Attitude, (3) Provision of Information, (4) Structural Accessibility, and (5) Program Implementation. Each section represented the critical aspects of universality, and was assessed using the eight factors. Within the individual sections, the answers from the eight questions were totaled, and the sum of each section was analyzed descriptively.

3. What was the total accessibility among surveyed courses? The means for each step of universality were totaled and analyzed descriptively in order to determine the total universality of the ropes courses surveyed.
4. Was there a relationship between the five aspects of ropes course universality? A Pearson product correlation was used to determine if a relationship existed between any of the five aspects of universality.

## Section II

1. Did the courses surveyed tend to be housed in facilities that were accessible? Facility accessibility was determined by accessible parking, accessible door entry, accessible restrooms, raised numbers and letters on rooms and offices, concrete walkways, accessible water fountains, curb cuts, accessible phones, and wheelchair accessible tables.
2. Did the courses surveyed tend to be structurally accessible to people with physical disabilities? Structural accessibility was determined by the presence of nonslip surfaces, paved trail to course, preset anchors, hand rails, counterweights, edges on ramps and bridges, and type of course surface. Frequencies and percentages were derived to answer this question.
3. Did the courses surveyed tend to utilize specific technical adaptations to increase accessibility to people with physical disabilities? Technical adaptations included full body harnesses, chest harnesses, protective canvas, protective padding/materials, and

the use of 2-pulley systems. Frequencies and percentages were derived to answer this question.

### Section III

1. Can a consensus be synthesized from among ropes course directors and facilitators as to the most universal low and high elements? Responses from the surveys were tallied, and a consensus of the most often stated elements compiled.

## RESULTS

### Section I

#### Question One

The Resource Information section contained eight questions designed to assess the development of a resource base on including people with physical disabilities. Each question attempted to assess the availability of resources regarding people with disabilities to staff at the ropes course. Table 4 lists the complete results of the Resource Information section (questions 1-8). Most courses (69%) agreed that they had resources in the office about people with disabilities, yet considerably fewer courses (35%) deemed the available resources comprehensive. The majority of courses (60%) did not include sections on specific considerations for people with disabilities in their policies and procedures (P&P) manuals. About one quarter of the courses (26%) that responded indicated they did have a specific manual on policies and procedures for people with disabilities. Access to disability information, initiative adaptations, and technical adaptations for people with disabilities were reported to be easily available to staff at

Table 4. Resource information question responses (N = 102)

Question	Yes (%)	No (%)	Neither (%)
There is information on people with disabilities in our office.	68.6	22.6	8.8
The information in our office on people with disabilities is comprehensive.	35.3	40.2	24.5
There is a section in our P&P manual including considerations for people with disabilities.	25.5	59.8	14.7
There is a specific P&P manual for facilitating people with disabilities.	17.6	71.6	10.8
Staff can easily access information on disabilities.	41.2	41.2	17.6
Staff can easily access information on initiative adaptations.	44.1	37.3	18.6
Staff can easily access information on technical adaptations	38.4	44.7	16.9
This course has used local organizations to develop a resource base on universal programming	14.7	71.6	13.7

many of the ropes courses (38-44%); about the same number indicated that this information was not easily available to staff (37-45%). According to these results, courses also tended not to use outside resources such as local organizations to enhance the development of their resource base (72%).

The Personal Attitude section contained eight questions designed to assess the general attitudes of respondents regarding people with disabilities on the ropes course. Table 5 lists the results of the Personal Attitude section (questions 1-8). The majority of respondents (89%) felt that the quality of a ropes course experience had very little to do with physical ability; most agreed (89%) it was not dangerous for a person with a

Table 5. Personal attitude question responses (N = 102)

Question	Yes (%)	No (%)	Neither (%)
The quality of an experience on the ropes course depends on physical ability	3.9	89.2	6.9
People with disabilities participating on course should be more highly commended than their peers	9.8	73.5	16.7
Specific training in special education is essential to work with people with disabilities	45.1	33.3	21.6
Homogeneous groups will have a better experience on the course than groups with mixed abilities	15.7	67.7	16.7
It is dangerous for a person with a disability to participate on the ropes course	3.9	89.2	6.9
I am comfortable working with a person who has a disability	73.6	11.8	14.6
A disability may take away from the whole group experience due to the added challenge	3.0	90.2	6.8
A disability may take away from the whole group experience due to the added time to make adaptations	5.9	76.5	17.6

disability to be on the course; and 90% felt the presence of a person with a disability did not take away from the group's experience. Three-quarters (74%) of the respondents were comfortable working with a person with a disability, yet one third (33%) felt that training in special education was essential to work with a person with a disability.

The results from the Provision of Information section are listed in Table 6. This section contained eight questions designed to assess if staff training and development regarding universality was being implemented at surveyed courses. While most courses

Table 6. Provision of information question responses (  $N = 101$  )

Question	Yes (%)	No (%)	Neither (%)
There is a staff member with a disability at this course	19.9	64.3	15.8
There are on-going programs to assist in training staff to work with people with disabilities	27.7	57.4	14.9
There is a staff member who is knowledgeable on the subject of disabilities	51.6	33.7	14.9
In the past five years, there has been a general staff inservice at this course	76.3	15.8	7.9
In the past five years, there has been a staff inservice on including people with disabilities	39.6	56.5	13.9
There has been a comprehensive 2-3 day staff training inservice on universal design and programming	22.8	67.3	9.9
A person with a disability has been invited to assist staff with adaptations for universal programming	20.8	68.3	10.9
Including people with disabilities is a topic that is discussed frequently at staff meetings	28.7	52.5	18.8

(64%) reported not having a person with a disability on staff, about half (52%) did report having a staff member who was knowledgeable on the subject of disability at their course. More than half (57%) of the courses said that there was no on-going staff training in regards to working with people with physical disabilities; this figure was consistent with the 57% of courses who said that there had not been a staff in-service specifically on including people with disabilities at their course in the past 5 years. In terms of staff training however, 40% of the courses did report having an inservice regarding disability issues, and over 22% of the courses had held a comprehensive, 2-3 day workshop or inservice on universal programming. The majority of courses (68%) had not actually



invited an individual with a disability to assist with staff training; yet 29% indicated that disability issues are regularly discussed at staff meetings.

The Structural Accessibility section contained questions designed to assess if surveyed courses were accessible, from a physical standpoint, to a number of physical limitations. Table 7 shows the results for the eight questions in the Structural Accessibility section. Overall, most courses agreed with the structural accessibility statements presented in the survey. Almost all of the respondents reported that they could accommodate a person with a visual impairment (93%), a person who was deaf (89%), and a person who was weak or prone to fatigue (86%) on their course. Considerably fewer courses were able to accommodate a person with an amputation (69%), or a person in a wheelchair (48%). The low elements were considered accessible by 88% of the courses surveyed. High elements were reported to be less accessible than the low elements, with 67% of the courses indicating that their high elements were accessible to a variety of disabilities.

The Program Implementation section contained eight questions designed to assess if surveyed courses were currently working with people with disabilities, and to what extent people with disabilities were being included in programming. The results from the Program Implementation section (questions 1-8) are displayed in Table 8 and tended to be more evenly split between agreement and disagreement than any of the other sections. For the most part, respondents did indicate that they had facilitated a person with a

Table 7. Structural accessibility section question responses ( $N = 97$ )

Question	Yes (%)	No (%)	Neither (%)
This course is accessible to a person in a wheelchair	41.3	48.4	10.3
This course is accessible to a person with balance and coordination difficulties	61.9	22.6	15.5
This course is accessible to a person who has an amputation	69.1	14.4	16.5
This course is accessible to a person with a visual impairment	92.8	1.0	6.2
This course is accessible to a person who is deaf	88.7	3.1	8.2
This course is accessible to a person who is weak or prone to fatigue	85.6	7.2	7.2
A person with a physical disability would have access to the low elements of this course	87.7	3.1	9.3
A person with a physical disability would have access to the high elements of this course	66.9	16.5	16.6

disability on their course (80%). However, only 41% of the courses agreed that their staff had been given an opportunity to use adaptations in order to work with a person with a disability. Very few courses actively recruited people with disabilities to participate (20%), and when individuals did participate, they were often placed in integrated groups (49%), and also often placed in segregated groups (60%).

### Questions Two and Three

In order to determine the mean total scores for each of the five sections in the survey, the eight questions in each section were combined. The mean scores, standard deviations, and ranges for the sections are described in Table 9. The maximum total

Table 8. Program implementation section question responses (N = 100)

Question	Yes (%)	No (%)	Neither (%)
The staff has had opportunities to use the adaptations they know for working with a person with a disability	41	40	19
This course actively recruits people with disabilities to participate	21	53	26
Very little time is available to program for people with disabilities	34	30	36
We are currently, or have recently, made changes to this ropes course to increase accessibility	43	33	24
Schools groups bring their students with disabilities when participating on the ropes course	48	22	30
People with and without disabilities are usually grouped together at this course	49	28	23
People with disabilities usually participate in segregated groups on this course	60	20	20
We have had a person with a disability on this course	80	17	3

score for each section was 40, with a score of 40 points indicating that the course tended to have a high degree of accessibility in that particular facet of universality.

Any score of 32 or above indicated that the course had favorable scores for the individual questions. The highest mean of 31.65 occurred in the Personal Attitude stage, this stage also had the smallest standard deviation and range of the other four stages. Structural Accessibility had a mean of 30.7, with a larger standard deviation and range than the Personal Attitude scores. The mean for the Program Implementation was 25.7, with a larger variability around the mean score than Personal

Table 9. Mean scores for the individual sections of universality and total universality

Stage	Mean (40 pt. max)	SD	Min.	Max.
Resource Information (N=102)	19.30	6.63	7	35
Personal Attitude (N=102)	31.65	4.10	22	40
Provision of Information (N=101)	22.14	7.6	8	40
Structural Accessibility (N=97)	30.67	5.24	15	40
Program Implementation (N=101)	25.74	6.39	10	38
Total Universality (N=97)*	130/200	22.77	83	181

\*based on 200 points

Program Implementation. Resource Information and Provision of Information scores were the lowest with means of 19.30 and 22.14, respectively.

The sums of each of the five sections were combined to provide an idea of complete universality among the ropes courses surveyed. The total universality scores are listed in Table 9. The maximum possible score was 200, however, any score between 160-200 indicated a course that had addressed many of the aspects of universality. The lowest score recorded was 83, and the highest recorded score was 181. The mean score of total universality was 130 (SD = 22.77). The total universality scores tended to be slightly negatively skewed as was indicated by the mode (121) and the median (127) falling below the mean score (130). This indicated

that many courses gravitated to the left of the mean indicating a tendency of surveyed courses to be less accessible rather than more accessible to people with disabilities.

#### Question Four

A Pearson product moment correlation was performed to determine if a relationship existed among any of the five sections of universal design assessed by the survey. Results showed almost all of the relationships to be significant at the  $p = .01$  level, with the exception of the relationships between Personal Attitude (PA) scores and Resource Information (RI), Provision of Information (PI), and Structural Accessibility (SA) scores. It seemed that PA scores had a weak relationship with the stages of RI, PI, and SA.

The highest reported correlation was between PI and RI stages ( $r = .6987$ ). Variance calculations revealed that 51% of the total variability in PI was consistently associated with the variability in RI (or vice versa). High correlations were also reported between PI and IMP ( $r = .6948$ ); RI and Program Implementation (IMP) ( $r = .6281$ ); and between SA and IMP ( $r = .5197$ ). However, variability was calculated at 48, 40, and 27% respectively, meaning that 48, 40, and 27% of the total variability in IMP was consistently associated with the variability in PI, RI, and SA, respectively. The IMP stage consistently showed strong relationships with the other stages with the exception of PA. That is, courses reporting high for implementation also tended to report high on at least three of the other stages. Complete results from the correlations are listed in Table 10.

Table 10. Correlation results between the five sections of universality

Stage	RI p r <sup>2</sup>	PA p r <sup>2</sup>	PI p r <sup>2</sup>	SA p r <sup>2</sup>	IMP p r <sup>2</sup>
(RI) N = 102	1.0				
(PA) N = 100	.1690 p = .089 r <sup>2</sup> = .03	1.0			
(PI) N = 101	.6987 p = .000 r <sup>2</sup> = .49	.2370 p = .017 r <sup>2</sup> = .056	1.0		
(SA) N = 97	.4352 p = .000 r <sup>2</sup> = .189	.0996 p = .332 r <sup>2</sup> = .010	.3768 p = .000 r <sup>2</sup> = .142	1.0	
(IMP) N = 100	.6281 p = .002 r <sup>2</sup> = .395	.3041 p = .002 r <sup>2</sup> = .092	.6948 p = .000 r <sup>2</sup> = .483	.5157 p = .000 r <sup>2</sup> = .266	1.0

## Section II

The second set of questions that were asked when analyzing the data were concerned with whether specific attributes that tended to make courses accessible were present within courses surveyed. Respondents were asked to comment on the accessibility of the facility, the course itself, and the presence of adaptive technical equipment or systems in place.

### Question One

Table 11 lists the complete results from the questions on facility accessibility. Almost all of the courses surveyed had accessible parking (93%), accessible door entry (73%), and accessible restrooms (77%). Concrete walkways, curb cuts, and accessible tables were reported to be present in 53, 45, and 36% of the ropes courses, respectively. Very few courses had telephones for people with hearing impairments, or raised numbers and letters for individuals with visual impairments.

Table 11. Facility accessibility responses (N=93)

Attribute	Yes (%)	No (%)
Accessible parking	92.5	7.5
Accessible door entry	73.1	26.9
Accessible restrooms	77.4	22.6
Raised numbers and letters	12.9	87.1
Concrete walkways	52.7	47.3
Accessible water fountains	29.4	70.6
Curb cuts	44.6	55.4
Accessible telephones	14.1	85.9
Accessible tables	35.9	64.1

## Question Two

This question was concerned with whether the ropes course itself tended to be designed to accommodate a person with a disability. The results are listed in Table 12. Most courses did not have a paved trail leading to the course (81%), and very few courses had hand-rails on main walkways (74%), or edges on ramps and bridges to prevent slipping (81%). Over one third of the courses had preset anchors (35%), and less than one fifth had built-in counterweight systems (11%).

Table 12. Course structure accessibility ( $N = 95$ )

Attribute	Yes (%)	No (%)
Nonslip surfaces	26.4	73.6
Paved trail to course	18.7	81.3
Preset anchors	35.2	64.8
Hand-rails on main walkways	3.3	96.7
Built-in counterweights	11	89
Edges on ramps and bridges	18.7	81.3

Ropes course respondents were also asked to comment on the surface of the course itself. Table 13 describes the surfaces of the courses. The most common surfaces were woodchips (39%), dirt (20%), and grass (15%). The 'other' category (24%) included surfaces such as mulch, sand, forest floor, duff, and pine needles.



Table 13. Course surfaces (N= 96 )

Surface	Percentage (%)
Woodchips	39.4
Dirt	19.8
Grass	15.4
Rubberized	1
Other	24.4

### Question Three

In order to determine adaptations currently being implemented, respondents were asked to indicate whether or not they utilized certain technical equipment or techniques at their course. The complete results from this question are listed in Table 14. Most courses had chest harnesses (74%), and almost half reported the use of full-body harnesses (46%). Courses tended not to use protective canvas (95%), or make use of additional padding or material (77%). Many courses (35%) did report that they used a 2-pulley system for people with disabilities.

### Section III

#### Question One

Courses were asked to list low and high elements that either lent themselves to including people with disabilities, or had been used before to include a person with a disability. Most respondents listed several activities under each section. Suggested

Table 14. Technical adaptation accessibility (N = 92)

Attribute	Yes (%)	No (%)
Full-body harnesses	44.5	55.5
Chest harnesses	73.9	26.1
Protective canvas for legs	5.4	94.6
Protective padding	22.8	77.2
2-Pulley system	34.8	65.2

activities were tallied, and the ones mentioned most frequently are listed in Tables 15 (low elements), and 16 (high elements). A large number of different activities and initiatives were recorded. A number of courses did not respond to this section, but a total of 68 courses did complete at least one of the two sections.

## DISCUSSION

The purpose of this study was to establish baseline data on the current status of ropes courses and their ability to include people with disabilities from the standpoint of attitude, programming, and structure. The principles of Sugerman's model of universality were used as the framework for the construction and subsequent analysis of the surveys. Given that this is the first time the model has been the basis for a questionnaire, the results need to be reviewed keeping in mind the novelty of the research instrument used.

From the perspective of Sugerman's model, the results revealed some very interesting information about the ropes courses as well as the model itself. The principles

Table 16. Consensus of universal high elements (N = 64)

Element	N
Zip Line	23
Climbing Wall	20
Postman's Walk	14
Flying Squirrel	13
Burma Bridge/3-Line Bridge	12
Multivine	11
Pamper Pole	10
Cat Walk	9
Rope Ladder	6
Dangle Duo	5

decrease throughout the model, with Resource Information being the lowest scoring, and Program Implementation being the highest. Assuming that the survey was a valid measure of universality, the ropes courses involved in the study did not appear to follow the suggested sequential nature of universality.

A large amount of data was accrued from many different ropes courses throughout the country. Considering the novelty of the ropes course, the highly physical nature of the course, and the critical safety and technical aspects of facilitation, the surveyed courses tended to be quite accommodating to people with disabilities. The results of the

study will be discussed in terms of the three components of universality: attitude, program, and structure.

While social attitudes have been cited as major obstacles in the inclusion of people with disabilities (Schleien & Ray, 1988), this did not appear to be the case in the results of this study. In fact, these results showed that personal attitudes had a very weak relationship with the other four aspects of universality. That is, courses that scored high on the personal attitude section did not necessarily score high on the other critical aspects of universality.

Given that attitudes have traditionally been a barrier to inclusion, and this study revealed that the barrier no longer exists, this may indicate that the prospects for universal design are very positive. If however, these results indicated that respondents felt people with disabilities should be included, yet were not actually acting on that feeling, the prospects for universal design are less promising.

Within the Personal Attitude section, almost half of the respondents felt that specific training in special education was essential in order to work with people with disabilities. While this result seems to indicate a respect for the field of special education, it also reveals a perception of high specialization within the field, and may enable course directors to not adopt universal design because they do not feel qualified. Few will argue that some type of training is required to work with a person with a physical disability in both soft (people) skills and hard (technical) skills. However, the

notion that one needs to be highly trained in the field of special education in order to work with a person who has a disability is quite extreme.

Another aspect of attitude revealed in this study can be discussed in more qualitative terms. The survey was quite long, and participation in this study may have revealed some commitment or interest in universal design. A number of notes and comments were also included in many of the returned surveys which indicated a positive attitude towards universality.

Programming is the second, multifaceted component of universal design. This component includes all of the aspects involved with staff training right through to the implementation of universal programs. In this study, respondents were asked questions on Resource Information, Provision of Information, and Program Implementation in order to establish baseline data on this second and crucial part of universality.

Overall, the sections with the lowest average scores were the three regarding programming (Resource Information, Provision of Information, and Program Implementation). Most of the courses had very few comprehensive resources available to staff that would enable them to easily gain knowledge skills required to successfully integrate a person with a disability. Lack of staff awareness has been cited as a barrier to accessibility for many people with disabilities (Farbman & Ellis, 1987), yet it is fortunately a barrier that can be remedied with very little capital outlay. Having information available to staff makes sense as a starting point to universality, yet this aspect was the lowest scoring of all stages in the study. These results also revealed a

significant relationship between the scores of resource information and program implementation. That is, courses that did have written and 'people' resources available to staff tended to be including people with disabilities on the course. This relationship between Resource Information and Program Implementation is very encouraging because of the relative ease with which resources can be attained.

While the average score for the Provision of Information section was the second lowest of the five sections, both the standard deviation and range were the largest of the five. This indicated that there was considerable variability among individual ropes courses in regards to provision of information - - which is essentially staff training. Thompson and Zito (1981) stated that staff training and on-going inservice programs were integral components of mainstreaming. Many of the courses had used a staff inservice and/or a comprehensive workshop on universality for staff development. However, most courses reported they did not have on-going programs to train staff to work with people with disabilities.

In terms of implementing successful inclusive programs, quality leadership has been cited as very important (Quinsland, Pomerroy, & Van Ginkel, 1986). Staff training seemed to be a tool that was used by a number of courses to enable the staff to feel confident and provide quality leadership for all participants. Staff members are clearly essential components in providing quality experiences for integrated groups. According to this study, some courses seem to have acknowledged this fact, and are committed to staff development in this area.

Structure is the final component of universality, yet it is the first (and often the only) item that comes to mind when discussing accessibility and people with disabilities. Generally speaking, the average structural accessibility to people with a number of physical disabilities rated very high among the ropes courses in the study. The wheelchair has long been considered the common denominator of accessibility, and almost all the facilities surveyed had parking, door entry, and restrooms that would enable a person in a wheelchair to maneuver independently. The majority of the surveyed courses did not have a paved trail to the site, and over half the courses had surfaces that were either woodchip or 'other' nonwheelchair friendly surfaces (sand and rocks). Several respondents indicated they would like to see ropes course surfaces and trails that allow for easier wheelchair maneuverability. Many courses had dirt or grass surfaces which are both viable options to enhance accessibility. Unfortunately, in wet conditions, grass and dirt surfaces tend to become less accessible than woodchips.

Technical adaptations on the course will often make the difference between being able to include a person with a disability and not being able to get the person involved. Some courses did indicate that they used 2-pulley systems, preset anchors, and full-body harnesses. The availability of counterweights, preset anchors, and 2-pulley systems will increase the ability of the facilitator to include a person with a disability. Techniques such as the Australian belay will also facilitate involvement of a person with a disability. Roland (1984) noted staff training as being a critical antecedent to structural adaptations. Clearly, before any of the adapted equipment, techniques, and alternative safety systems

are used, facilitators must first be trained on how to use the equipment in a way that will maximize the potential ability of participants.

A large number of the courses surveyed indicated that they could accommodate persons with physical limitations on both low and high elements. The low elements were reported to be slightly more accessible than the high elements. Several respondents discussed the need for elements that were specifically designed from a universal perspective. The idea here being that instead of having elements that need to be adapted and changed so that a person with a disability could participate, no adaptations would be necessary.

From the results, a number of low and high elements were identified as being accessible to persons with physical disabilities. The responses from this portion of the survey indicated that most of the low elements had been used, or were considered to be accessible to a person with a disability. It seemed that for many of the low elements, creativity, flexibility, and commitment were all that was needed to accommodate people with physical limitations. Although considerably fewer of the high elements were identified, many were still mentioned as being universally accommodating.

According to these results, the issues concerned with attitudes towards including people with disabilities have already been addressed. This result is no surprise given that individuals who gravitate towards ropes course facilitation tend to understand that every individual has something unique and special to offer to the group. It needs to be noted that attitudes seemed to have very little to do with any of the other aspects of universality.



After attitudes, the essential components of programming and structure were not being as closely addressed on those courses surveyed. The results beg the question, why are the actions of ropes course directors and facilitators not more reflective of their attitudes? Furthermore, if attitudes are very positive and good intentions exist, why are individuals not being more proactive in their approaches to training and adaptation?

The results revealed some very interesting things about the accessibility of the surveyed ropes courses from the standpoint of structure, as well as the perceptions of structural accessibility among respondents. It seemed that courses tended to become less and less accessible as people left the parking lots and moved toward the ropes course itself. More specifically, the facilities tended to be easily used by people with physical limitations, and yet the course itself was much less accessible to people with disabilities. For example, almost every course surveyed indicated that the course was accessible to people with visual impairments and people who were deaf. However, almost every course also indicated that they did not have raised numbers and letters in the facility, or telephones for people with hearing impairments. While it is likely that many of the courses do not have offices to put signs on, or telephones for anyone to use, it is clear that the ideas of accessibility - - entering and being able to use a facility - - need to be clarified.

While it appeared that many of the courses were structurally accessible to people with different physical disabilities, a number of inconsistencies in the data pointed to the possibility that courses were not as accessible as the respondents perceived them to be.

For example, a large number of courses had woodchip surfaces which are not really conducive to wheelchair maneuverability yet many of these courses were reported to be accessible to a person in a wheelchair. The same was true with technical adaptations; very few courses used a two-pulley system, yet claimed that a person in a wheelchair could be accommodated. The same was true of the high elements. High elements were reported to be accessible to people with a range of physical limitations, yet the same courses did not report using systems that would make the high elements accessible. It seems that many of the respondents believed that they could facilitate integrated groups, but were not truly aware of the intricacies of accessibility that reach beyond 'just being there'.

Inconsistencies between structural accessibility and programming also existed in the data. While some elements are more accessible than others, very few courses exist that are inherently universal. In order for a ropes course to be used by a person with a physical disability, the onus is mainly on the facilitator to implement systems that will allow an individual to participate. While most respondents indicated that their staff did not have access to information on technical adaptations, had not been through any specific training, and did not use 2-pulley or counter-weight systems, the high elements were still reported to be very accessible.

It may be that many individuals believed that having an inclusive philosophy is all that is required to include people with disabilities. The reality of the situation is that good intentions will not levitate an individual up the pampers pole; however good training

and specialized systems will. The attitudinal barrier is truly a huge obstacle, one which the surveyed ropes courses do not seem to be facing. Structural and programming issues are also fundamental building blocks of universality and need to be more clearly understood.

## CONCLUSION

The use of ropes courses for adventure education within physical education, therapy, and team building continues to expand and grow. Perhaps the largest rise in use has been seen in the schools. Many schools have adopted adventure education into their curriculum and are using the ropes course as a learning medium.

School districts without universal courses need to seriously consider the message being sent to teachers, parents, and students when the students with disabilities are left behind, or not included in the common experience on the ropes course. How can teamwork, trust, and respect for each other be taught when part of the group is being so obviously excluded? It is unfortunate that the experience which may be the most powerful for the students with and without disabilities may not have students integrated.

Many facilitators seem to have already considered the notion of universality at their courses. This study was able to bring forth many recommendations from the field. Facilitators and course directors called for more resources and information and access to training. Many noted a need for builders to design courses that were inherently universal, instead of needing to be adapted. Many facilitators stated the need for a path to the course and a course surface that was more accessible.

In addition, many people wanted to see more collaboration among educators, builders, researchers, facilitators, and directors in order to create training and construction standards for ropes courses. The Association for Challenge Course Technology (ACCT), a fairly young organization (est. 1989) made-up of educators, builders, and facilitators, is currently working on creating standards for the ropes course training. The ACCT may be the seed for collaboration between professionals concerned with the future development of the ropes course.

From the standpoint of structure, society is becoming a less disabling force on people with functional limitations. The Americans with Disabilities Act (ADA) has been instrumental legislation in ensuring a certain degree of structural accessibility in many settings for people with disabilities. The notion of ‘accessibility’ goes far beyond simply being able to enter a facility. Indeed, if accessibility is only being addressed structurally, then the spirit of the law is being missed. If an individual is unable to take part in the programs inside (or associated with) an accessible facility, being able to enter the building is essentially futile.

The ideals of universality begin where the reaches of ‘accessibility’ end. The nature of the course is inherently universal, and as such is ideal for integrated groups. As the popularity of ropes courses continue to rise throughout the country, there is a need for a course structure that is more closely aligned with the inherently universal philosophy of ropes courses. Because of the technical similarities between ropes courses, rock

climbing, and sport climbing, developments in this area may facilitate participation in these other adventure activities.

Preceding changes in physical accessibility, however, is the need for a greater commitment to accruing information and investing in staff development. It seems that while Sugerman's model was not shown to be sequential according to the results of this study, the model does have potential as a framework for developing universality at ropes courses. The model also has the potential to be developed into an assessment tool to facilitate development at individual courses.

At present, building universal structures and universal training for staff is more expensive than traditional construction and training. Clearly, this is a major reason why many courses do not have cutting-edge universality on site. It seems there is a need for some technology and innovation in terms of structure and design of the ropes course to realize universality. It should be noted that the handful of universal technical adaptations available to facilitators were known by relatively few individuals. So while some technology exists to include people with disabilities on courses, the use of training and available resources on how to maximize potential is not really being tapped. Many courses are not using the current technical adaptations that already exist. That is, there is a lag between the available technical adaptations and current staff training procedures. The key factor in universality may be in training staff and investing in people resources instead of waiting for the creation of the 'ultimate' in universal design ropes course technology.

## REFERENCES

- Dewey, J. (1897). School Journal. LIV. (pp.77-80).
- Farbman, A., & Ellis, K. (1987). Accessibility and recreation for persons with disabilities. Therapeutic Recreation Journal, 21, (1) 70-75.
- Frant, R., Roland, C., & Schempp, J. (1982). Learning through outdoor adventure education. Teaching Exceptional Children, 14, 146-151.
- Havens, M. (1992). Bridges to accessibility. Dubuque, IA: Kendall/Hunt.
- Johnson, J. (1992). Adventure therapy: The ropes-wilderness connection. Therapeutic Recreation Journal, 26, (3) 17-26.
- Keighley, P. (1993). A consideration of the appropriate teaching, learning and assessment strategies in the outdoor adventurous activity element of outdoor education as it relates to the physical education national curriculum. The British Journal of Physical Education, 24, (1) 18-22.
- McAvoy, L., & Dustin, D. (1986). Outdoor adventure recreation, gymnasiums beyond the school. Journal of Physical Education, Recreation, and Dance, 57, (5) 66-67.
- Mobley, M., & Marlow, P. (1987). Outdoor adventure: A powerful therapy. PALAESTRA, 3, (3) 16-19.
- Quinsland, L., Pomeroy, B., & VanGinkel, A. (1986). "Sorry, I can't hear you", wilderness programming for deaf people. Journal of Experiential Education, 9, (3) 9-12.
- Rohnke, K. (1989). Cowstails and Cobras II. Dubuque, IA: Kendall/Hunt.
- Roland, C. (1984). Ropes courses: Facing the accessibility issue. In G. Robb, & P. Hamilton (Eds.), The Bradford Papers, 4, Bloomington, IN: Indiana University.
- Roland, C. (1992). Accessible ropes/challenge courses in rehabilitation: Roads to the community. PALAESTRA, 9, (1) 16-21.
- Roland, C., & Havens, M. (1982). Tree climbing: Handicapped find "perch" exciting. Camping Magazine, 8, (2) 36-37.

Schleien, S., & Ray, T. (1988). Community recreation and persons with disabilities. Baltimore, MD: Brookes.

Sugerman, D. (1995, November). Five step model to universality. Model presented at the Association for Experiential Education (AEE) international conference. Lake Geneva, WI.

Terry, T. (1995). Universal adventure programming: Opening our programs to people with physical disabilities. Journal of Leisurability, 22, (2) 18-19.

Thompson, G., & Zito, A. (1981). Community recreation mainstreaming: the inclusion of handicapped individuals in regular recreation programs. Recreation, Parks & Leisure, University of Missouri - Columbia Extension Division, 2, 20-27.

Webster, S. (1989). Rope course safety manual. Dubuque, IA: Kendall/Hunt (vii).

ROPES COURSE QUESTIONNAIRE

APPENDIX A





### Personal Attitudes

1) The quality of a ropes course experience depends on the physical abilities of the participants.

1                      2                      3                      4                      5

2) People with physical disabilities who participate in ropes courses should be more highly commended than their peers without disabilities.

1                      2                      3                      4                      5

3) Specific training in special education is essential for working effectively with individuals with special needs at the ropes course.

1                      2                      3                      4                      5

4) In general, homogenous groups will have a higher quality experience on the ropes course.

1                      2                      3                      4                      5

5) I think it is dangerous for people with disabilities to be on this ropes course.

1                      2                      3                      4                      5

6) I am comfortable working with people with disabilities.

1                      2                      3                      4                      5

7) The added challenge of a person with a disability tends to take away from the experience of the rest of the group.

1                      2                      3                      4                      5

8) The time required to make adaptations for persons with disabilities while on the course tends to take away from the experience for the rest of the group.

1                      2                      3                      4                      5

### Provision of Information

1) There is a staff member (paid or unpaid) who has a disability at this ropes course.

1                      2                      3                      4                      5

2) We have on-going training programs to help staff address the specific needs of individuals with disabilities.

1                      2                      3                      4                      5

3) We have a person on staff who is very knowledgeable on the subject of disabilities.

1                      2                      3                      4                      5

4) In the last five years, we have had an inservice for staff members.

1                      2                      3                      4                      5

5) In the last five years, we have had an inservice on adapting activities for people with disabilities.

1                      2                      3                      4                      5

6) We have had a comprehensive staff training session (2-3 day duration) on including people with disabilities at this ropes course.

1                      2                      3                      4                      5

7) We have invited a person with a disability to a staff meeting or training session to answer staff questions and concerns.

1                      2                      3                      4                      5

8) The issue of programming and training in order to include people with disabilities at this course is frequently discussed at staff meetings/conferences.

1                      2                      3                      4                      5

13) If a person with a spinal cord injury (a wheelchair user) was going to go through the course tomorrow... (check as many that would be true at your ropes course).

- ☐ There would be many staff members qualified to facilitate the session.
- ☐ The facilitator would be aware of the physical implications of a spinal cord injury.
- ☐ The individual would have access to the ground and low-ropes activities.
- ☐ The individual would have access to the high elements.

14) The approximate range of specific initiative and element adaptations for people with physical disabilities that are known and used by facilitators at this course are:

- ☐ 10 +    ☐ 8-10    ☐ 6-8    ☐ 4-6    ☐ less than four    ☐ none

### Implementation

1) The staff have had the opportunity to use the adaptations they know when working with people with disabilities.

1                      2                      3                      4                      5

2) We actively recruit individuals with disabilities to participate on this ropes course.

1                      2                      3                      4                      5

3) Very little time is available for us to program for the needs of people with disabilities.

1                      2                      3                      4                      5

4) We have made, or are currently making, changes to our ropes course to increase accessibility.

1                      2                      3                      4                      5

5) School groups that visit the ropes course bring students with disabilities to participate.

1                      2                      3                      4                      5

6) We often facilitate groups that have people with and without disabilities participating together.

1                      2                      3                      4                      5

7) People with disabilities participating on the ropes course are usually in segregated programs.

1                      2                      3                      4                      5

8) We have never had a person with a disability on this course.

1                      2                      3                      4                      5

9) Please list some low elements that lend themselves to including people with disabilities.

10) Please list some high elements that have been used when a person with a disability is participating on the course.

Recommendations from the field...is there anything that would make your course more accommodating to people with disabilities?

Thank you for your time! Please return this survey in the envelope provided. If you would like to receive the results of the study, please write the address to which you would like the results to be mailed.

COVER LETTER

APPENDIX B

FOLLOW-UP CARD

APPENDIX C

(Date)

Dear Ropes Course Director/Facilitator,

About a week ago you were sent a survey about the accessibility of your ropes course to people with disabilities. If you have not sent in your survey, please do so as soon as possible so that our data will be truly representative of your area. If you have already mailed in your survey, please accept this as a thank you for your cooperation.

Sincerely,

Karen Reader,  
University of Wisconsin-LaCrosse

## REVIEW OF RELATED LITERATURE

### APPENDIX D

## REVIEW OF RELATED LITERATURE

### Starting Points of Accessible Adventure

The first ropes courses and elements, especially the high elements, were not accessible for many individuals with disabilities. Quite incidentally however, in 1977 at Camp Allan, documented by Roland and Havens (1982), people began to adapt adventure to address the needs of people with disabilities. Since that time, changes and adaptations to the course in order to include people with disabilities have been continuously occurring.

The "tree climb" was the initiative developed at Camp Allan, and as many camps followed suit, an era of tree climb programs ensued (Roland & Havens, 1982). The tree climb was an initiative in which participants would climb a tree to a constructed perch either by selecting a route up the tree, or by being hoisted up the tree. This initiative became very popular, and from 1977 to 1981, tree perch programs were implemented in Indiana at Bradford Woods and Camp Millhouse (Havens, 1992).

Because of the success of this initial accessible adventure initiative, professionals collaborated to determine the efficacy of an accessible ropes course. In 1980, Camp Riverwood documented a ropes course experience for individuals with moderate to severe mental retardation (Frant, Roland, & Schempp, 1982). Until this point, the denominator for accessibility had typically been the wheelchair. Facilitators of the experience at Camp



Riverwood realized that accessibility also meant consideration of balance and coordination difficulties among individuals with a variety of disabilities.

In 1981, a collaborative effort on the part of a multidisciplinary group of professionals, some with disabilities, resulted in the construction of an accessible low ropes course at Vinland National Center in Minnesota (Roland & Hancock, 1984). This effort involved adapting traditional elements and creating new ropes initiatives. Within the next few years, the Bradford Woods Accessible Challenge Course (Indiana) was constructed; Mt. Hood Kiwanis Camp (Oregon) built accessible elements; an indoor accessible course was built at the Cotting School (Massachusetts); and Hemlocks Outdoor Education Center (Connecticut) also followed suit by adapting adventure for people with disabilities.

The camps mentioned above seemed to be the innovators in accessible design of ropes courses and adventure activities. It needs to be noted that many of the courses and activities were in the context of segregated camp experiences. These efforts helped to address the structural needs of people with different abilities within a segregated setting. General accessibility issues, however, such as program and attitudinal barriers within integrated and inclusive settings had yet to be addressed. Roland and Hancock (1984) noted that while a major attribute of adventure programming was that it was inclusive, ropes courses tended to be exclusive, because they were inaccessible to many individuals.

### Universality: Attitude, Structure, and Program

The notion of universality provides a philosophical base on which to build programs that include individuals with a full range of abilities. Associated with universality are ideas such as full integration, equality of experience, full participation for all levels of ability, and activities suited to all persons (Terry, 1995). In order for these ideals to become reality, much more than structural changes need to be effected. By thoughtfully considering the interaction between attitudes, program, and structure, universality aims to make recreation available to everyone.

#### Attitude

Attitude is the cornerstone and also the major obstacle in the issue of universal access. Social attitudes are cited over and over again as the critical obstacle for people with disabilities in realizing their personal potential (MacNeil, 1977; Schleien & Ray, 1988; Wilkenson, 1984; Wright, 1983). Negative attitudes are generally derived from outdated historical perspectives of disability and society's low tolerance for diversity (Hutchinson & Lord, 1979). Negative attitudes result in the labeling and segregating of people, the outcome of which is the person with a disability is left with a major handicap. While the person may have originally had a minor disability, he/she may have a major social handicap as a result of negative attitudes (Hutchinson & Lord, 1979).

Negative attitudes tend to undermine the person with a disability and are therefore an important focus of individuals working with people with disabilities. Often times, people with disabilities are protected from taking risks by people without disabilities.

This paternalistic approach to working with people with disabilities impinges on basic human dignity. While often viewed as benevolent and helping attitudes, these attitudes actually undermine the well-being of an individual. Risk-taking is a normal part of human growth and development (Perske, 1972) and so not enabling all individuals to take risks is denying them their right to self-actualize.

### Program

Programming is a critical aspect of universality and implies implementing programs that provide opportunities for all people regardless of ability level. From a programmatic standpoint, universality accommodates the broadest spectrum of people through one design instead of needing to adapt and create a number of designs to accommodate all the differing ability levels (Driskell, 1993).

Farbman and Ellis (1987) identified program accessibility as an area that needed to be addressed in order to meet the needs of all individuals. Lack of staff awareness and training was identified as an impediment to accessibility, and the study recommended comprehensive training programs for staff so they will be able to accommodate the needs of diverse populations. Moreover, guidelines for program accessibility were identified as problematic as they tended to be more subject to interpretation than structural accessibility (Farbman & Ellis, 1987).

Roland and Hancock (1984) noted staff training as being a critical antecedent to structural adaptations. Sugerman (1988) also indicated that programming was a key aspect in offering adventure education to people with disabilities. Quinsland, Pomerroy,

and Van Ginkel (1986) discussed quality leadership, goal setting, and communication as the critical components of making adventure programming accessible to people with disabilities. Indeed, in situations where people are unfamiliar with each other, or situations where differences between people are apparent, groups will look to the leader for guidance and direction (Lais, 1987). Given this knowledge, the staff member is clearly an important aspect of universal service delivery.

Thompson and Zito (1981) offer a number of steps to community mainstreaming. This model, like Sugerman's, sees the inclusion of all people as a process with a number of distinct steps. This community mainstreaming model sees staff training and ongoing inservice programs as antecedents to program development in schools and the community. Barriers to staff training identified included a lack of acknowledgment that training is needed, unwillingness to recognize the benefits of a multidisciplinary approach, assembling potential trainers, and attaining a staff that is willing to learn. The solution offered in this article to overcome the identified barriers was to survey the needs of individuals and agencies within the community.

"Accessibility" is a term frequently used for buildings and structures that can be accessed by the individual with a disability. For many people accessibility means a wheelchair can get in the door, a parking space is close to the entrance, and the building has a ramp and elevator. This view of accessibility is a slight misconception. According to the Architectural and Transportation Barriers Compliance Board (ATBCB), a facility is accessible if it complies with national accessibility standards and can be approached,

entered, and used by people with physical disabilities. According to this standard, in order to be accessible, facilities need to offer opportunities such that the facility can be "used" by all individuals. This second aspect of accessibility is often neglected, and the intention of this requirement can be interpreted as the offering of programs as part of genuine "accessibility".

Staff training and preparation are critical elements in offering programs to people with different abilities. This does not mean training one person who works with people with disabilities - - this promotes segregation. Rather, a team approach to staff training that enables all staff to feel comfortable and knowledgeable in the area of disability is required. The notion of universality views individual differences as an asset that enhances experiences for all involved. Universality sees no benefits in segregation because it advocates one design for everyone.

### Structure

According to Driskell (1993), universal design is the amalgamation of two concepts of structural accessibility, the "Barrier-Free Model" and the "Enabler Model". When the barrier-free design emerged the belief was that if a structure design is wheelchair friendly, it could be considered barrier-free (Driskell, 1993). Wheelchair accessibility was significant in this model because the wheelchair was considered the common denominator for determining barrier-free access. It was discovered that the barrier-free design did not meet the needs of many other types of disabilities (Steinfeld,

1978), and was still fairly exclusive. The Enabler Model (Steinfeld, 1978) was developed to help designers understand the large array of visible and invisible disabling conditions that affect individuals. The model offered 15 different disability concerns resulting from mental, sensory, and motor impairments.

Universal design was a new perspective which emerged because neither the Barrier-Free nor Enabler Model could satisfactorily stand independently to provide total accessibility. The universal design is a combination of the two earlier accessibility models, and aims to accommodate everyone. From a designer's perspective, universality strives to create one design that will serve everyone, instead of creating designs that accentuate differences. For example, the wheelchair entrance at the back of the building tends to perpetuate the perception of disability as inferior in our society. Likewise, the existence of stairs and a ramp at one entrance is uneconomical, inefficient, and also accentuates differences.

Universal design is currently solidifying its philosophical base, and has not yet established technical specifications or implementation procedures. The current design guidelines and specifications are the product of many different standards. In their discussion on a number of current accessibility issues in outdoor recreation, Farbman and Ellis (1987) identified the need for official standards and uniform guidelines to make facilities accessible. The researchers also indicated the need for training of individuals within the design field such that professional designers would be rehearsed in structural adaptations.

### The Americans with Disabilities Act

In a field where success lies predominantly in the changing of attitudes, and for people to embrace disability as a social issue not a personal problem, mention of the strong hand of the law seems counterproductive. Dewey believed that "all reforms which rest simply upon the enactment of law, or the threatening of certain penalties, or upon changes in mechanical or outward arrangements, are transitory and futile." Nevertheless, the Americans with Disabilities Act (1990) has been an important law in the on-going battle for equal human rights for people with disabilities.

The Americans with Disabilities Act has created considerable recreational opportunities for people with disabilities (Roland, 1992). There are five titles involved in the ADA which basically make discrimination on the basis of disability illegal in almost all aspects of the American public and private social structure. The Public Accommodations title (III) significantly affects all aspects of recreation provision. Essentially, under this title, the ADA has made accessible ropes courses a legal requirement. Under the act, ropes courses are required to provide reasonable accommodations to include individuals with disabilities into their programs. In order to comply with the law, ropes courses should be designed so that they are accessible to all individuals, and must also offer auxiliary aids to accommodate individuals with disabilities.

### Universality and the Ropes Course

Inherent in universality is the acknowledgment that individual differences are the evidence of the existence of diversity. Further, it is a realization that diversity is a positive aspect of the human experience. The three dimensions of universality - - structure, attitude, and programming - - are equally significant, and must all be present for universality to exist.

The special needs of individuals can be viewed as existing on a spectrum with differing degrees of need in intellectual, emotional, physical, and social areas. The ropes course is inherently versatile, and experiences are actually designed to meet the varying degree of need in various populations. The well prepared facilitator, with adequate support, will be able to create challenges for the group that allow each person to become meaningfully involved in the experience. The benefits of adventure through ropes courses have been formally and informally reported for many years, and the popularity of the activity is testimony to its benefits. In order for the inclusive philosophy of ropes course activities to be realized, universality needs to be actively pursued.



## REFERENCES

- Americans with Disabilities Act of 1990, PL 101-336, 26 July 1990, 104 United States Statutes at Large.
- Dewey, J. (1897). School Journal, LIV (pp. 77-80).
- Driskell, D. (Ed.). (1993). A design guide: Universal access to outdoor recreation. Berkeley, CA: PLAE (pp. 3-17).
- Farbman, A., & Ellis, K. (1987). Accessibility and recreation for persons with disabilities. Therapeutic Recreation Journal, 21, (1) 70-75.
- Frant, R., Roland, C., & Schempp, J. (1982). Learning through outdoor adventure education. Teaching Exceptional Children, 14, 146-151.
- Havens, M. (1992). Bridges to accessibility. Dubuque, IA: Kendall/Hunt.
- Hutchinson, P., & Lord, J. (1979). Recreation integration. Ottawa, ON: Leisurability Publications.
- Lais, G. (1987). Toward fullest participation - suggested leadership techniques. In G. Robb & P. Hamilton (Eds.), The Bradford Papers, 2. Bloomington, IN: Indiana University.
- MacNeil, R. (1977). Opening minds and entryways at cultural centers. Parks and Recreation, 12, 41-44.
- Perske, R. (1972). The dignity of risk and the mentally retarded. Mental Retardation, 10, (1) 24-26.
- Quinsland, L., Pomerroy, B., & Van Ginkel, A. (1986). "Sorry, I can't hear you", Wilderness programming for deaf people. Journal of Experiential Education, 9, (3) 9-12.
- Roland, C. (1992). Accessible ropes/challenge courses in rehabilitation: Roads to the community. PALAESTRA, 9, (1) 16-21.
- Roland, C., & Hancock, N. (1984). Ropes courses: Facing the accessibility issue. In G. Robb, & P. Hamilton (Eds.), The Bradford Papers, 4. Bloomington, IN: Indiana University.

Roland, C., & Havens, M. (1982). Tree climbing: Handicapped find "perch" exciting. Camping Magazine, 8, (2) 36-37.

Schleien, S., & Ray, T. (1988). Community recreation and persons with disabilities. Baltimore, MD: Brookes.

Steinfeld, E. (1978). Access to the built environment: A review of literature. Washington, DC: United States Department of Housing and Urban Development.

Sugerman, D. (1988). Adventure education for people who have disabilities: A critical review. In G. Robb, & P. Hamilton (Eds.), The Bradford Papers, 3. Bloomington, IN: Indiana University.

Terry, T. (1995). Universal adventure programming: Opening our programs to people with physical disabilities. Journal of Leisurability, 22, (2) 18-19.

Thompson, G. & Zito, A. (1981). Community recreation mainstreaming: The inclusion of handicapped individuals in regular recreation programs. Recreation, Parks & Leisure, University of Missouri - Columbia Extension Division, 2, 20-27.

Wilkenson, P. (1984). Providing integrated play environments for disabled children: A design or attitude problem? Journal of Leisurability, 11, (3) 9-14.

Wright, B. (1983). Physical disability - A psychosocial approach (2nd ed.). New York, NY: Harper & Row.