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INCLUSION AT RESIDENTIAL OUTDOOR ENVIRONMENTAL EDUCATION CENTERS: A SURVEY OF CURRENT PRACTICES

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Introduction

In recent decades, persons with disabilities have become increasingly integrated into all aspects of society, including education and recreation programs. In schools, this change has resulted from an understanding that provision of “a least restrictive environment,” as mandated by the Individuals with Disabilities Education Act (IDEA), is often a regular education classroom rather than a segregated special education one. On a broader level, the Americans with Disabilities Act (ADA) has spurred recreation and social programs to make their facilities welcoming and accessible to all. As providers of school-sponsored as well as public programs, residential outdoor environmental education centers are also expected to be increasingly inclusive. The purpose of this study was to document whether this shift is indeed occurring at residential outdoor environmental education (ROEE) centers.

Related Research

Previous research provides a rationale for inclusive outdoor programming as well as evidence that learning in mixed groups benefits all. Surveys of people with and without disabilities have revealed similar preferences for outdoor settings and experiences (Brown, Kaplan, & Quaderer, 1999; Moore, Dattilo, & Devine, 1996). Similarly, McCormick (n.d.) found that people with disabilities chose to participate in outdoor recreation activities at a frequency equal to, or higher than, their peers without disabilities. By making their programs more inclusive, ROEE centers are recognizing this interest shared across ability levels.

Numerous studies have documented the efficacy of inclusive recreational and educational programs. Research on Wilderness Inquiry’s outdoor adventure trips has reported positive changes in social skills, attitudes, and quality of life measures for participants regardless of ability level (Anderson, Schleien, McAvoy, Lais, & Seligmann, 1997; McAvoy, Schatz, Stutz, Schleien, & Lais, 1989). The National Inclusive Camp Practices (NICP) study revealed similar increases in outdoor and personal skills as a result of inclusive camping experiences for youth (Brannan, Arick, Fullerton, & Harris, 2000; Brannan, Fullerton, Arick, Robb, & Bender, 2003). At schools, inclusive science classes have also resulted in academic improvement for all students (Jakupcak, Rushton, Jakupcak, & Lundt, 1996; Palincsar, Magnusson, Collins, & Cutter, 2001). Following larger trends in recreation and education, inclusive outdoor environmental education programs have benefited students as well. Participation in these programs enabled students of all abilities to improve their environmental knowledge, outdoor skills, and tolerance of others (Heins, Piechura-Couture, Roberts, & Roberts, 2003; McAvoy & Schleien, 2001; Schleien, Hornfeldt, & McAvoy, 1994).

Research indicating ROEE programs *can* be inclusive does not reveal whether most *are* inclusive. Without data on current practices, it is difficult to know where change is needed and to

measure whether it has been achieved. This study set out to collect such baseline data, and to understand the relationships between specific inclusion actions, ROEE center characteristics, and program values.

Theoretical Perspective

This study is couched in the ecological perspective, a part of social systems theory (Howe-Murphy & Charboneau, 1987; Pedlar, Haworth, Hutchinson, Taylor, & Dunn, 1999). From the ecological perspective, in order for positive change to occur for individuals with disabilities, focus must be put on not only individuals with a disability, but also the environments in which they live and grow (Scholl, Smith, & Davison, 2005). The environment is seen as physical, social, and political. From an ecological perspective, efforts for change must focus on reducing architectural barriers, increasing environmental opportunities for personal action, mobilizing support systems, reducing attitudinal barriers, educating identified groups in environments for inclusion, and designing physical environments that support individual independence and human interaction (Howe-Murphy & Charboneau, 1987). Additionally, from the ecological perspective, positive change is facilitated when attention is focused on interactive processes within an environment. Focus should be on positive and respectful interaction patterns, connection of people to resources, and fostering inclusion (Howe-Murphy & Charboneau, 1987). In social systems theory, inclusion practices are seen as key to facilitating positive change for people with disabilities. When barriers persist in physical, social, and political environments, opportunities for people with disabilities to experience outdoor education will be thwarted. Measuring, or benchmarking, the status of the environment is one of the first steps toward positive change (Klitzing & Wachter, 2005).

Methods

To gather information about the status of inclusion of students with disabilities in ROEE programs, surveys were mailed to 350 center directors across the United States inquiring about their current practices. The survey contained 28 close-ended questions and addressed program marketing, communication with schools, staff hiring and training, facility accessibility, program accessibility, and overall views of inclusion. Questions were developed based on recommended best practices in inclusive education (Jorgensen, 1998; McAvoy & Schleien, 2001) and recreation (Anderson & Kress, 2003; Brannan, Fullerton, Arick, Robb, & Bender, 2003; Bullock & Mahon, 2001) as well as ADA guidelines (Regulatory Negotiation Committee, 1999). The survey was reviewed by relevant experts for face validity and piloted with 15 outdoor professionals.

Because a comprehensive national list of ROEE centers was not available, the sample for this study was compiled from the membership lists of relevant organizations including the American Camp Association (ACA), Coalition for Education in the Outdoors (CEO), National Association for Interpretation (NAI), YMCA, New York State Outdoor Education Association (NYSOEA), Environmental Education Association of Indiana (EEAI), and the Association of Nature Center Administrators (ANCA). Programs listed in the two largest databases, those provided by ACA and the YMCA, were selected for the study because they were residential and offered "environmental education," "outdoor education," and "off-season programming." Programs were selected from the other membership organizations based on center name or the authors' prior knowledge. Contact information was obtained for a total of 350 qualifying centers and surveys

were mailed to this entire sample. Anticipating that some of these programs were included incorrectly, directors were instructed to complete the survey only if they “offer residential outdoor environmental education programs to school groups.”

Following Salant and Dillman’s (1994) recommendations, center directors received an initial survey and business reply envelope, a thank you/reminder postcard, and a second-copy of the survey (if they had not responded). Of the 350 surveys mailed, 96 were returned completed, and 41 more were returned stating that the center does not offer ROEE, indicating an overall response rate of 31%. Only responses from ROEE centers were included in the data for analysis. This response rate is lower than generally preferred for survey data (Salant & Dillman, 1994), but not surprising given that ROEE center directors are very busy and often in the field with staff or participants. Although sampling and non-response errors were not assessed, demographic information gathered through the study indicate that a variety of centers responded. They were located in all regions of the U.S. in similar proportions to the sample distribution (i.e. 41 mid-west, 20 northeast, 20 south, 15 west). Centers also reported varying ages, months per year of operation, and size.

Data were compiled using Excel and analyzed using SPlus and SPSS statistical programs. Frequency counts and chi-square tests were used to report and compare nominal data, and t-tests, ANOVA, and multiple linear regression were used to compare distributions of interval data (e.g. accessibility scores) (Ott & Longnecker, 2001; Trochim, 2001). As promised, the identity of respondents was kept confidential. The results were shared with any center directors who requested a copy.

Results

The type of data gathered, the level of analysis, and the descriptive nature of the results reported below reflect the primary purpose of the study: to collect baseline data on current use of best practices for inclusion at ROEE centers. Additional analysis documented connections between center characteristics, directors’ values, and levels of accessibility.

Student Recruitment

Participants with disabilities can be recruited by ROEE centers individually or through their schools. Direct marketing materials can encourage individuals of all abilities to attend by indicating that the facility is accessible and the program will accommodate diverse needs through various means. Study participants were asked to indicate whether their materials included the universal symbol of accessibility, pictures of persons with disabilities, or a statement regarding making accommodations. Of these actions, only the latter was reported as being done more frequently than not (i.e. used in at least some materials by 63 respondents).

If ROEE centers are enrolling whole schools or classes rather than recruiting individuals, it is important that they communicate their willingness to include all students. When asked whether they specifically encouraged schools to bring their students with disabilities, 64% of the centers responded yes. Interestingly, when asked to estimate how many schools are bringing all of their students regardless of disability, 30% of the respondents stated that they did not know. This may reflect a lack of communication between schools and ROEE centers about inclusion views and program possibilities. As one director wrote, “When we have individuals or groups with

disabilities, I think we do a good job of including them into the program, and adapting when possible. It is difficult for me to begin speculating on when schools/groups have encouraged students not to come – I don't think they would want me to know!" However, many centers are already providing inclusive programs for most of their schools, at least according to the directors. Of the 44 respondents who chose to estimate how many of their schools bring all of their students, 79% of the directors indicated that 80-100% of their schools do so.

Staff Preparation

Successful inclusive programs require enthusiastic, competent staff who have access to the necessary information about their students (Anderson & Kress, 2003; Scholl, Smith, & Davidson, 2005). When asked about hiring practices, 34% of the respondents stated that they ask about experience working with students with disabilities in hiring interviews, and 25% indicated that they always employ a person trained in making accommodations to serve as a staff resource. Responses to these questions were significantly correlated ($\chi^2(1, 90) = 5.139, p = 0.023$). Recognizing that ROEE centers may provide extensive training to their staff at the beginning of the season, the survey asked which inclusion topics are regularly covered. The most common ones – those reported by at least 50% of the respondents – were how to adapt activities for students with physical or learning disabilities, how to encourage communication between all students, and information on the accessibility of various sites on the property. In order to make use of their inclusion skills, staff also need information about students' specific needs and adequate time to prepare their lessons. Of our respondents, 70% required medical or special needs information from all of their participants, and 89% shared information about students with disabilities with their instructors at least one day before the program begins.

Facility and Program Accessibility

Because of their importance as indicators of inclusion, facility and program accessibility were assessed through a series of general and specific questions. For each construct, center directors were first asked how accessible they *considered* their facility or program to be. Later they were asked to rate the accessibility of individual facilities (e.g., restrooms in student living quarters or the waterfront area) and specific program areas (e.g., aquatic science or archery). These ratings were then used to calculate facility and program accessibility scores out of 100. Most centers *considered* their facilities and programs accessible (34% facility, 34% program) or somewhat accessible (58% facility, 64% program). Means of the accessibility scores for all respondents showed the same trend, with program accessibility being significantly higher than facility accessibility ($t(78) = 2.404, p = 0.017$). Comparing the general and specific accessibility estimates, the trends matched; centers that *considered* their facilities and programs accessible had significantly higher scores (based on an ANOVA, facility: $F(1,78) = 30.148, p = 0.000$; program: $F(1,78) = 7.379, p = 0.001$).

The series of questions about accessibility also gathered information on what actions centers are taking to make their facilities and programs more accessible. With regards to facilities, directors were asked whether they had conducted an accessibility survey of their site. Only 45% of respondents had done so, and the accessibility scores of those who had not conducted a survey were significantly lower than those who had ($t(76) = 2.66, p = 0.009$). Looking at program accommodations, 81% indicated that at least some of their curriculum materials offered suggestions for adapting activities, and 55% indicated that they had adapted program equipment

available for some of their program areas. Trends related to curricula and program equipment matched those for program accessibility; centers with higher accessibility scores also had more inclusion resources available (curricula: $F(1, 78) = 4.61, p = 0.035$; program equipment: $F(1, 78) = 6.94, p = 0.011$).

Views on Inclusion and Additional Resources Desired

Although the close-ended nature of the survey did not allow for extensive exploration of how ROEE center directors view inclusion, two value-based questions at the end of the survey did collect some information. Directors were asked to indicate how central including students with disabilities was to their center's mission on a scale of one (unrelated) to five (very central). Similarly, the next question asked what level of priority they placed on increasing inclusion. Responses to each question (when analyzed separately) yielded a positive mean of 3.6. Because the distributions of these responses were similar, they were summed for the analyses discussed below to account for collinearity.

Given the expressed interest in increasing inclusion at ROEE centers, it is useful to know what respondents would like to help them with this process. Preferences for various resources are shown in Table 1 with the most popular being guidelines for increasing program accessibility, material for staff training, and curriculum materials designed for students of all abilities.

TABLE 1
Resources Considered Most Helpful for Improving Inclusion

Resource	Frequency
Guidelines for increasing program accessibility	60
Written materials/suggestions for staff training	59
Curriculum materials designed for students of all abilities	55
Guidelines for increasing facility accessibility	39
Information about local professionals/organizations who could help train staff	27
Professional development opportunities related to inclusion	26
Consultants to assess your center and provide suggestions	17

Demographics, Values, and Actions

Although the primary purpose of the study was to gather descriptive data, correlations between the variables offer insight into why some ROEE programs are more inclusive than others. A multiple linear regression (MLR) model was used to assess how demographics (i.e. center location, age, months of operation, and size) and values might be correlated with facility and program accessibility scores. Analysis showed that only the values variable (the sum of the questions about centrality to mission and priority placed on inclusion) was a significant predictor of facility and program accessibility (Table 2). Other factors, not measured in the survey, are also likely influencing inclusion levels as indicated by the low R^2 values of 0.236 and 0.324. If facility and program accessibility are seen as general approximations of inclusion and are correlated with values, it is useful to then look back at which best practices are linked with values. ANOVAs and t-tests demonstrated that indeed many of the marketing and accessibility-related actions are correlated with values, while collecting special needs information and hiring practices are not (Table 3).

TABLE 2
Regression Model Comparing Demographics and Values to Facility and Program Accessibility

Variable	Facility Accessibility $R^2 = 0.2358$ ($N=78$)		Program Accessibility $R^2 = 0.324$ ($N=78$)	
	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
Age of Center	1.4059	0.1642	-0.833	0.407
Months Operate	1.1973	0.2352	1.4673	0.1468
Region of U.S.		> 0.235		> 0.115
Size of Center	-0.3301	0.7423	-1.5712	0.1206
Values	3.1585	0.0023	4.2928	0.0001

TABLE 3
Correlations between Inclusive Practices and Values

Inclusive Practice	N	Statistic	<i>p</i>
Statement about accommodations in marketing materials	80	$F = 19.356$	0.000 *
Encourage schools to bring all students	81	$t = -3.897$	0.000*
Request special needs information for all students	81	$t = -0.445$	0.658
Ask about experience with students with disabilities in hiring interviews	81	$t = -1.522$	0.132
Always hire a resource staff member	81	$t = -1.725$	0.089
Conducted a facility accessibility survey	81	$t = -3.175$	0.002*
Include suggestions for adaptation in curriculum materials	77	$F = 32.133$	0.000*
Have adapted program equipment available	78	$F = 13.096$	0.000*

Note: Inclusive practices were compared to the summed responses to questions about the centrality of inclusion to the center's mission and the priority placed on increasing inclusion. Starred values (*) indicate significance at the $\alpha = 0.05$ level.

Discussion

Although results indicating widespread use of best practices in inclusion would have been exciting and positive, the mixed responses gathered through this survey help counter concerns about coverage error (bias due to sample selection) and non-response error. Variation between responses for both demographic variables and best practices variables suggests that not only those centers with highly inclusive programs or accessible facilities received and completed the survey. In terms of measurement error, although the survey was carefully developed based on literature, reviewed, and piloted, a lack of definitions provided may have biased center directors' responses. Definitions for inclusion, accessibility, and disability were not included in an effort to simplify the survey and to increase response rate. Many questions were not influenced by this omission. For example, "Do your marketing materials display the universal symbol of accessibility [symbol provided]?" is quite clear and self-explanatory. However, if center directors defined inclusion as simply offering programs for people with disabilities, regardless of how integrated they were, some of their estimations may have been inflated. Conversely, a narrow definition of disability or accessibility that focused only on students who used wheelchairs could have decreased estimates. For example, centers that successfully include students with Attention Deficit Hyperactivity Disorder (ADHD) but have rocky trails may have

rated their program inaccessible. To fully address this measurement error, additional qualitative research or expert verification of self-reported data would be needed.

One of the main objectives of this research was to collect and compile baseline data about what is happening in the field of ROEE. This goal was met. The data presented, which summarize national trends, can now be used by individual center directors and the wider field of ROEE to improve inclusion. It is clear that best practices are already being used in certain areas. Many centers are gathering information about their students ahead of time and providing this to their educators for appropriate planning. Most *programs* are at least somewhat accessible even if the center's *facilities* are less accessible. This difference may reflect a shift toward broader definitions of access and inclusion or creative responses to facility barriers. Also encouraging, views on inclusion reflect a belief that inclusion is indeed central to ROEE and indicate an intention to improve their practices. Given this priority placed on increasing inclusion at ROEE centers, it is useful to consider what gaps this study revealed. Marketing practices and conversations with schools that could bring students with disabilities to ROEE centers in the first place are somewhat lacking. So too are hiring practices that ensure availability of staff members skilled in including all students. Lastly, there appears to be a lack of information about really how accessible ROEE facilities are. More than half of the respondents, and likely even more of the non-respondents, had not conducted an accessibility survey of their site. Gathering such information is key to planning and implementing change.

It is encouraging that, of the variables tested as predictors of high facility and program accessibility, only the values measure was significant. These results mirror the assertions of the disability community that addressing attitudinal barriers is at least as important as large construction projects (Devine & King, 2006) and highlights the value of using an ecological perspective, where the environment is seen as social and political, as well as physical (Howe-Murphy-Charboneau, 1987; Pedlar et al, 1999). The influence of values on inclusion also demonstrates that improvement is within directors' control. They cannot change how long their center has been in existence or in what region of the country it is located. They can change their missions and priorities and allow these values to guide their work. Looking at many of the practices assessed, it appears that these connections between values and actions already exist. It is interesting that while student recruitment activities and access-related accommodations are correlated with values, gathering special needs information and hiring practices are not. The reasons for this dichotomy are not clear. Center directors may have less flexibility to influence the latter two practices, regardless of their views. Outside policies or liability concerns may determine how medical information and practices are handled by school districts and ROEE centers. And center directors may not have the option of focusing on inclusion, if recruiting staff is already a challenge. Alternatively, the lack of correlation with values may reflect a lack of awareness that staff need knowledge as well as creativity and enthusiasm to successfully include all students.

Conclusions and Recommendations

If ROEE programs are to become more inclusive, it is important to know their starting point. Awareness of the current status also provides an impetus for such change. Some of the findings reported above are positive, such as the high number of programs with facilities considered at least somewhat accessible. Other results, such as how few centers have actually conducted an

accessibility survey, are discouraging 15 years after the ADA mandated this action. By comparing their practices to national trends, center directors can use these data to improve or help others. The field of ROEE as a whole can use the data to chart broader changes. And researchers can track progress through comparison to the baseline data presented here.

Further research is needed not only to highlight changes but also to validate these data and explore emergent themes. This study relied on self-reported measures of inclusion and accessibility. Expert review of facilities and programs at a sample of ROEE centers would not only help verify these results but also provide valuable guidance for improvement. Similarly, interviews with directors to better understand how values are linked to inclusion would collect additional data, while providing an opportunity for directors to reflect on their current practices. Given the limited number of studies on inclusion in environmental education, follow-up research is needed in a variety of directions.

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