The Views of National Park Service Superintendents and Interpretation and Education Supervisors
on Interpretation and Education in the National Park Service

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Introduction

This report shares the results of efforts associated with the ongoing development of a standards assessment tool for interpretation, education, and visitor orientation within the National Park Service. In this effort, we conducted two online surveys with National Park Service employees to understand their views on interpretation, education, and visitor orientation and their management within their units. The first survey was completed by superintendents; the second was completed by Chiefs of Resource Education and Interpretation and others in equivalent interpretation and education supervisory roles in the National Park Service. This report addresses the following questions:

1. What do respondents consider to be the roles of interpretation and curriculum-based education within their park units?

2. What do they believe interpretation and curriculum-based education achieve in their units?

3. What types of interpretation and education do they consider to be most important in their units?

4. What factors influence their decisions about resource allocation within interpretation and education?

5. What information do they use to make decisions about interpretation and education within their units?

6. What data do/would they find most useful for this purpose?

7. For each of the above questions, how do the opinions and perspectives of those specifically tasked with overseeing interpretation and educational functions within their units compare with the views of superintendents, who were surveyed prior to this effort?

8. What do those in charge of interpretation and education within park units consider to be the most promising indicators for measuring the quality of live interpretation, exhibits, and curriculum-based educational programs within their units?

Methods

An invitation to the first online survey was sent via email through NPS regional directors to every park unit superintendent. In some cases, the survey invitation reached other individuals in the NPS. We thus added a question to the survey to help us determine respondents' positions. We also made follow-up phone calls and inquiries to more definitively determine the positions of survey respondents. Those referred to as "superintendents" in this report include only those who completed this first survey whose identity could be confirmed as superintendents, deputy superintendents, or assistant superintendents. The superintendent survey was on-line from October 4, 2010 to November 2, 2010. One-hundred and fifty-six respondents could be confirmed as superintendents.

The second online survey targeted Chiefs of Interpretation and Resource Education and others who serve as primary supervisors for interpretation and education within their park units. We refer to these individuals in this report as Interpretation and Education Supervisors (IES). In some cases, these individuals held position titles such as Chief Ranger, Supervisory Park Ranger, Chief Historian, or Lead Park Guide. In some cases, particularly in smaller units, superintendents filled this role. As a result,

some overlap in roles between the two samples exists. Regional Chiefs of Interpretation distributed invitations to this second survey in March, 2011. The survey was on-line until May 9 to allow for adequate response time from all regions. One-hundred and sixty-six responded to the survey.

The questions were mostly identical for each respondent group, with a few minor changes noted throughout this report. An additional set of questions was included in the survey for IES that solicited their opinions of appropriate indicators for judging the quality of live interpretive programs, curriculum-based educational programs, and interpretive exhibits. These assessments are important to the development of a Standards Assessment Tool for evaluating these programs throughout the National Park Service. We also used these survey responses to inform the development of a recent study of interpretive programs throughout the NPS that investigated the influence of different program characteristics on visitor outcomes.

Results

Respondents were asked to identify the relative focus of their unit on a scale from entirely natural resource-focused to entirely cultural resource-focused (Table 1). Just fewer than half of participating units in the IES survey were situated on the cultural end of the spectrum. Figures were roughly similar for the superintendent survey, though the IES survey drew slightly more respondents from natural resource focused units. A subjective review by the research team of all 393 units at the time of the study suggests that approximately 59% of all units have a predominantly cultural-resource focus, with about 31% focusing primarily on natural resources, and the remainder appearing to be a roughly equal mix.

Table 1: Focus of NPS Park Units

Park Focus	IES sample		Superintendent sample	
	# of park units	Cumulative %	# of park units	Cumulative %
Entirely cultural resource focus	18	48.8	21	51.9
Predominantly cultural resource focus	63		60	
Roughly equivalent between natural and cultural resources	38	22.9	39	25.0
Predominantly natural resource focus	47	28.3	34	23.1
Entirely natural resource focus	0		2	

Defining roles for interpretation and education

The surveys asked respondents two open-ended questions regarding what they personally consider to be the role of interpretation and curriculum-based educational programs within their park unit. Write-in responses were coded and tallied to provide a general depiction of respondents' ideas about these roles (Tables 2 and 3). The tables also compare the responses of those in charge of interpretation and education with superintendents' responses on the prior survey.

With regard to interpretive programs, revelation/inspiration refers to respondents who described connecting visitors with the resource, building understanding of the significance of the resources, building an appreciation for the park and its resources, and inspiring visitors. Meanwhile, education/awareness responses mentioned informing or educating visitors without making mention of these deeper connections. Stewardship/support responses referred to interpretation's role in encouraging stewardship behaviors or other forms of "support" for the park unit. Eleven percent of those serving in supervisory interpretive roles specifically mentioned the importance of building

connections for the visitors with the National Park Service and not just their unit. Another 6% of IES suggested that interpretation is a vehicle for communicating management messages both to the public and from the public to management. The results were similar for superintendents, though IES more frequently mentioned stewardship benefits, while superintendents more commonly noted legal mandates or general fulfillment of the park unit's stated mission.

Table 2: What is the role of interpretation at NPS park units?

Role from coded write-in response	% IES (n = 167)	% superintendents (n = 154)
Revelation/inspiration	72%	67%
Stewardship/support	42%	31%
Visitor enjoyment	19%	16%
Education/awareness (w/out revelation factors)	17%	8%
Interpret National Park Service, not just unit	11%	9%
Orientation	10%	10%
Safety	8%	5%
To communicate management messages	6%	3%
Fulfilling legal mandate or mission in general	2%	10%
Change audience behaviors after they leave park	2%	5%

Table 3: What is the role of curriculum-based education programs at NPS park units?

Role from coded write-in response	% IES	% superintendents
Revelation/inspiration	48%	44%
Engaging new audiences	34%	26%
Curriculum provision/supplement	32%	25%
Stewardship/support	29%	19%
Enhancing relationships with local communities	20%	12%
Education/awareness (w/out revelation factors)	16%	14%
Enhancing students' academic experience	15%	18%
Interpret National Park Service, not just unit	13%	15%
Change student behaviors after they leave park (not including general calls for future generations' stewardship)	7%	5%
Enjoyment	7%	4%
Fulfilling legal mandate or mission in general	2%	3%
Safety	2%	0%
To communicate management messages	1%	2%
To enhance physical health	1%	1%
Orientation	0%	1%

Table 3 presents our interpretations of responses regarding the role of curriculum-based education in park units. While revelation/inspiration still topped the list, a far smaller percentage of respondents saw that as the primary role of curriculum-based educational programs than was the case for live interpretive programs. The next most prominent roles of for curriculum-based educational programs included engaging new audiences in park experiences, providing service to schools through supplementing standardized curricula and enhancing the overall academic experience, and enhancing

relationships with local communities. A greater percentage of IES than superintendents noted the role of curriculum-based educational programs in promoting stewardship of the parks and enhancing relationships with local communities. Enjoyment and orientation appeared less salient to respondents regarding these programs than in the case of live interpretive programs. Approximately 10% of both sets of respondents noted that their units currently provided little to no curriculum-based educational programs.

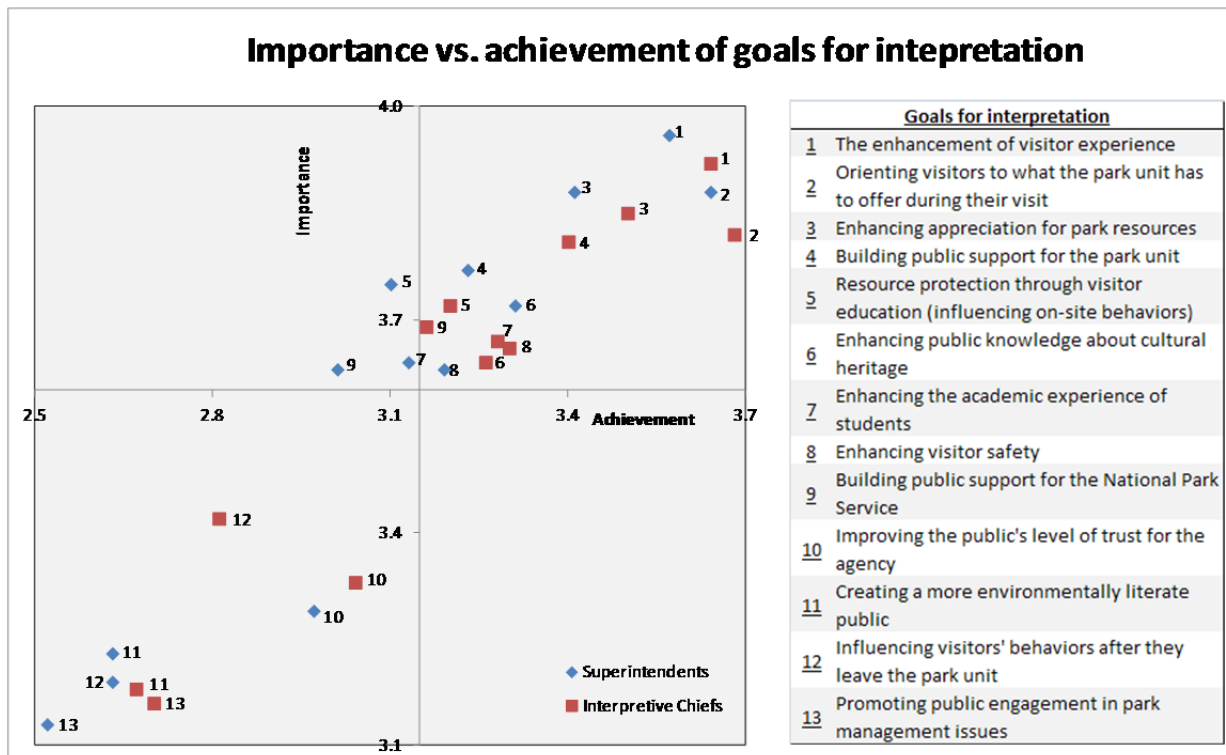**Goals of interpretation and education and their achievement**
Respondents were asked to rate the importance of interpretation and education in achieving different park unit goals and the contribution of these programs to the achievement of those goals. Each was measured on a four-point scale. The first question asked "How important is it that interpretation and education accomplish each of the following goals at your unit?" Response categories were: not important (1), somewhat important (2); moderately important (3); and very important (4). The second question asked for the contribution of interpretation and education to the achievement of each goal at the unit. Response categories were: none (1); low (2); moderate (3); high (4).

Table 4 displays importance/achievement scores for the parks in the study. Superintendents and those in charge of interpretation and education in the parks generally agreed on the degree of importance of each goal. The most important and most highly achieved goals included the enhancement of visitors' experience, visitor orientation, enhancing appreciation for park resources, and building public support for the park unit. The least important and least achieved goals included creating a more environmentally literate public, influencing visitors' behavior after they leave the park unit, and promoting public engagement in park management issues.

Table 4. Importance and achievement ratings of goals for interpretation and education.

	IES		Superintendents	
Goal	**Importance**	**Achievement**	**Importance**	**Achievement**
The enhancement of visitor experience	3.92	3.64	3.96	3.57
Orienting visitors to what the park unit has to offer during their visit	3.85	3.50	3.88	3.64
Enhancing appreciation for park resources	3.82	3.68	3.88	3.41
Building public support for the park unit	3.81	3.40*	3.77	3.23*
Resource protection through visitor education (influencing on-site behaviors)	3.72	3.20	3.75	3.10
Enhancing public knowledge about cultural heritage	3.64	3.26	3.72	3.31
Enhancing the academic experience of students	3.67	3.28	3.64	3.13
Enhancing visitor safety	3.69	3.16	3.63	3.19
Building public support for the National Park Service	3.66	3.30	3.63	3.01
Improving the public's level of trust for the agency	3.33	3.04	3.29	2.97
Creating a more environmentally literate public	3.18	2.67	3.23	2.63
Influencing visitors' behaviors after they leave the park unit	3.42*	2.81*	3.19*	2.63*
Promoting public engagement in park management issues	3.16	2.70*	3.13	2.52*

* Indicates statistically significant difference (p < 0.05) in mean scores between IES and superintendents.

Figure 1. Importance vs. achievement of goals for interpretation

Figure 1 shows graphically the importance and achievement of interpretation and education programs for different goals in park units as perceived by superintendents and chiefs of interpretation. The axes cross at the combined mean scores for all of the survey items. The chart suggests that most goals are achieved in relation with their importance (though all goals had higher means for importance than their achievement). There were three exceptions with regard to superintendents' assessment of achievement: *resource protection through visitor education*, *enhancing the academic experience of students,* and *building public support for the National Park Service*. Survey results suggest that superintendents generally feel that interpretation and education are commonly underperforming in these areas. Moreover, survey results suggest that superintendents generally perceive lesser degree of achievement across all measures than do those who directly supervise interpretation and education in the parks.

To examine any within-park differences between superintendents and IES, we conducted an additional analysis by limiting the sample to units for which we received a response from the superintendent and from the IES (n = 60) and performing paired sample t-tests. No significant differences were observed in the assessments of importance or achievement of the goals listed above, suggesting that, on average, superintendents and IES from the same parks appear to agree with each other.

Program types
The surveys asked respondents to rate each of the program types in Table 5 in terms of their relative importance for meeting the management objectives of their units. On-site programs and the park website rated the highest on average, with video podcasts receiving the lowest scores.   While rankings of means were similar between IES and superintendents, the former generally rated each program as

more important than superintendents, in particular on-site exhibits, orientation elements, park films, and off-site community programs. Statistically significant differences ($p < 0.05$) in mean scores between IES and superintendents were noted for each of the items marked with an asterisk.

Table 5. Importance of program types

Program type	Mean importance (0=not important, 10=extremely important)	
	IES	Superintendents
On-site visitor orientation (staffed visitor center)	9.28	8.99
On-site live interpretive programs	8.86	8.81
Park website	8.90	8.76
On-site exhibits	8.98*	8.60*
On-site education for school groups	8.81	8.47
Signage for visitor orientation	8.86*	8.40*
Printed materials for visitor orientation	8.64*	8.15*
Park film	8.06*	7.55*
School visits by park rangers	7.69	7.49
Off-site community programs	7.90*	7.33*
Video podcasts	6.51	6.27
Roving/informal interpretation on-site	8.05	NA
Other interpretive printed materials	7.94	NA

* Indicates statistically significant difference ($p < 0.05$) in mean scores between IES and superintendents.

To again examine within-park differences in perceptions, we again limited the sample to the 60 park units for which both a superintendent and an IES responded to the survey. No significant differences were observed in the rating of importance of these programs between IES and their corresponding superintendents.

Decision-making
Respondents were asked to rate the importance of the factors listed in Table 6 in their decision-making about resource allocation decisions under their control. They were first asked to rate each on a four-point scale: not important (1); somewhat important (2); moderately important (3); very important (4). They were then asked to select up to five items they consider to be the most influential factors in their decision making processes. Most showed a strong focus on achieving the objectives of their units and elements of return on investment. Many also rated elements of adaptive management and the maintenance of successful programs quite highly. The concept of sunk-costs did not seem particularly important to either respondent group, as few rated prior investments as a meaningful consideration.

Some statistically significant differences ($p < 0.05$) were noted in responses of IES and superintendents (each is marked by bold italics and asterisks in Table 6). IES placed greater emphasis on maintaining or enhancing successful programs, eliminating poorly performing programs, responding to public demands, taking directions from superiors, capitalizing on National Park Service-wide initiatives, and short-term measurable achievement. Superintendents placed greater emphasis on measurable long-term achievement, responding to changing conditions on the ground, and distributing resources equitably.

Table 6. Factors that influence resource allocation decisions

Factors	IES		Superintendents	
	Mean	% in top 5	Mean	% in top 5
Relative importance of program area to main objectives of my park unit	3.85	70.1	3.81	71.4
Likelihood of measurable long-term achievement	3.41	*34.4**	3.56	*47.4**
Responding to emergent needs/changing conditions on the ground	3.42	*16.2**	3.51	*46.8**
Maintaining or enhancing successful program areas	*3.84**	*64.9**	*3.50**	*38.3**
Consensus of management team	NA		3.43	31.8
Consensus of my staff	3.42	29.2	NA	
Expected return on investment delivered by program area	3.17	28.6	3.32	33.8
Quality of individuals working in the program area	3.18	18.2	3.16	26.0
Eliminating poorly performing programs	*3.46**	14.9	*3.16**	10.4
Public demands	*3.53**	*32.5**	*3.14**	*18.8**
Directions from superiors	*3.30**	22.7	*3.10**	19.5
Improving a struggling program area	2.95	9.1	3.10	13.6
Current objective measures of program area success	3.11	12.3	3.05	7.8
Availability of data for monitoring and evaluating program area	2.95	12.3	3.01	11.0
Demands from within the agency	2.92	4.5	2.89	5.2
Park Service-wide initiatives	*3.05**	*18.1**	*2.84**	*5.8**
Likelihood of measurable short-term achievement	*2.95**	9.1	*2.74**	9.1
Political pressures	2.55	5.8	2.68	7.1
Existing guidelines or standard operating procedures	2.84	8.4	2.67	3.9
Distributing resources as equitably as possible across programs	2.44	*7.1**	2.39	*16.2**
Prior investment(s) to program area	2.52	3.9	2.36	1.3

Within-park comparisons between matching pairs of superintendents and IES revealed only two statistically significant differences in mean scores reflecting IES's higher ratings of existing guidelines (t = 2.9; p = 0.006) and public demands (t = 2.4; p = 0.21).

Next, we recorded how often superintendents and IES from the same park agreed on each factor they placed in their own respective top five. The average rate of agreement between superintendents and IES within the same park unit was 71% for each factor. In other words, they agreed about whether the factors was in or out of their top five most important factors 71% of the time. The least agreed upon top-five factors included return-on-investment (37%), maintaining successful programs (43%), public demands (46%), responding to emergent needs/changing conditions (52%), long-term achievement (54%), the quality of individuals involved (59%), and directions from superiors (63%). All other factors showed agreement 70% or more of the time.

Respondents were also asked about the types of data they currently use for making resource allocation decisions for interpretation and education (Table 7). The strong majority of NPS superintendents and IES clearly use and value the input they receive from their staff. Also helpful for both groups were visitor demand, number of programs offered, number of visitors served, and inventories of topics, or themes, covered. Some differences are apparent, however, between superintendents and IES, with the latter placing considerably greater value on the number of visitors served and staff training levels and certifications. Superintendents, meanwhile, appeared to place somewhat greater emphasis on research results.

Write-in responses for each category of respondents included staffing and financial constraints, multiple forms of feedback and input from multiple stakeholders (including staff, visiting public, and partners), personal opinions and observations, and comparisons to other units. IES also noted the desires and priorities of management teams. The most seldom used data included research results on program outcomes. These were also considered the least available data, followed by demographic information and visitor demand.

Table 7. Data used for resource allocation decisions

Data Types	Identity	Don't use (%)	Use, but not very helpful (%)	Use, helpful (%)
Input from IES	Superintendent	8.0	2.7	89.3
Input from staff	IES	3.7	3.1	93.2
Visitor demand	Superintendent	21.4	11.7	66.9
	IES	28.3	4.4	67.3
Numbers of programs offered	Superintendent	12.1	22.1	65.8
	IES	6.9	15.1	78.0
Numbers of visitors served	Superintendent	12.0	23.3	64.7
	IES	6.2	6.8	87.0
Inventory of themes or topics covered	Superintendent	25.5	18.8	55.7
	IES	18.9	12.6	68.6
General visitor surveys	Superintendent	22.7	32.0	45.3
	IES	29.8	29.2	41.0
Staff training levels and/or certifications	Superintendent	35.3	28.0	36.7
	IES	18.0	19.9	62.1
Demographics or other descriptions of attendees	Superintendent	47.0	22.8	30.2
	IES	43.8	15.6	40.6
Research results on program outcomes	Superintendent	58.0	13.3	28.7
	IES	68.6	12.0	18.9
Other	Superintendent	87.2	1.3	11.5
	IES	85.4	0.6	14.0

The survey also asked respondents what data would be most useful to them (whether currently existing or not). Table 8 displays the results. The most coveted data were assessments of the impacts of programs on participants, followed by visitor demand for programs, current attendance and program numbers, and costs associated with maintaining programs. Among the least useful data were general park visitor statistics, staff training levels, and the spatial mix of where programs are offered within the park. IES rated the utility of general park visitor statistics and staff training levels and certifications significantly higher than did superintendents ($p < 0.05$). No other statistically significant differences were observed in the complete sample. Only one statistically significant difference was observed when comparing IES and superintendents from the same park unit (n = 60). IES placed greater value on general visitor statistics than did superintendents.

Table 8. Data that are/would be useful for resource allocation decisions

Data useful for resource allocation	Mean (1=not useful; 4=very useful)	
	IES	Superintendents
Assessments of the impacts of programs on participants	3.79	3.74
Demand of visitors for specific programs	3.73	3.62
# of visitors attending interpretive and educational programs	3.64	3.53
Specific costs of maintaining each program	3.23	3.29
# of programs provided	3.38	3.22
Lists of specific themes or topics addressed by different programs	3.31	3.18
Comparisons of programs to established best practices	3.32	3.15
Demographic make-up of participants in programs	3.09	3.11
General park visitor statistics	3.14*	2.87*
Staff training levels and certifications	3.15*	2.81*
Spatial mix of where programs are offered within the park	2.83	2.66

Indicators of program quality

IES respondents were each asked their opinions about a list of potential indicators of quality for live (in-person) interpretive programs (Table 9). This list was drawn from the literature and prior interviews and focus groups with National Park Service staff.[1] IES respondents were first asked to share their opinion regarding how necessary each indicator is for achieving positive interpretive outcomes, defined as the enhancement of the visitor experience and the generation of appreciation for park resources on a scale from 0 to 10 with three anchor points (0 = never necessary; 5 = sometimes necessary; 10 = always necessary). They were then asked to share their assessment of how consistently they felt each indicator could be measured by an educated observer, such as an interpretive chief or supervisory ranger on scale from 0 to 10 (from "impossible to consistently measure" to "can easily be measured consistently"). IES were then given the option to respond to similar questions about indicators of quality for curriculum-based educational programs and interpretive exhibits. One hundred and seven respondents opined on quality indicators for curriculum-based educational programs (Table 10), and 124 opined on quality indicators for exhibits (Table 11). Positive outcomes for curriculum-based programs were defined as enhancement of students' academic experience and the generation of appreciation of park resources. Positive outcomes for exhibits were defined as enhancement of visitors' experience and appreciation of park resources.

The most important elements of live interpretive programs included factual accuracy, clear communication of a well-developed cohesive central idea, appropriate logistics and organization, and relevance to the audience (Table 9). Seven other items were also strongly supported (above a score of 8 on the scale). The only item averaging a score lower than 7 on the scale was novelty. Of those programmatic elements viewed as most important for achieving positive outcomes, IES expressed greatest doubts about being able to measure relevance to the audience consistently. Provocation was another favored element with doubts about the likelihood of consistent measurement.

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[1] See Powell, R.B, Skibins, J.C, and Stern, M.J. 2010. *Linking Interpretation Best Practices with Outcomes; A Review of the Literature.* Report submitted to the National Education Council of the National Park Service. July, 2010.

Connecting educational objectives to meanings and significance of the resource ranked as the most important element for achieving positive outcomes for curriculum-based educational programs, followed by active participation and relevance to the audience (Table 10). Group learning, project-based learning, and student control over programming were the least favored. Again, consistently assessing relevance to the audience and provocation surfaced as potential challenges.

Quality indicators for exhibits were dominated first and foremost by accuracy, formatting, and appearance, in addition to the communication of a clear central message (Table 11). IES rated provocation, relevance, and emotional communication as the hardest elements to most consistently measure.

Table 9. IES opinions about potential indicators of quality for live interpretive programs (n = 161).

Quality indicators for live interpretive programs	How necessary for positive outcomes?	Ability to consistently measure?
Factual accuracy (communicated accurate and complete facts)	9.52	8.94
Clear communication of a well-developed cohesive central idea	9.14	8.66
Appropriate logistics (for audiences, message, and setting)	9.04	8.65
Organized (followed a logical sequence)	8.99	8.75
Relevance to the audience (communicated the relevance of the subject to the lives of the audience)	8.99	6.68
Responsive (meaningfully responsive to questions/desires/demands of audience)	8.82	8.05
Resource connection (emphasized the relationship between the visitor and the site/resource)	8.75	7.39
Universal linkages (links made to intangible meanings and higher-level concepts)	8.58	7.76
Clearly communicated theme (had clear theme(s))	8.51	8.22
Multiple viewpoints (explicitly acknowledged multiple perspectives)	8.13	8.08
Provocation (explicitly provoked audience to personally reflect on content and its deeper meanings)	8.09	6.98
Affective messaging (communicated emotion)	8.02	6.96
Audience engagement (actively engaged audience members in a participatory experience)	7.99	8.28
Multiple modes of delivery (used multiple methods of delivery – verbal, written, visual, tactile, etc.)	7.56	8.71
Multisensory (intentionally engaged multiple senses)	7.52	8.33
Physical engagement with the resource (provided direct physical experiences and interactions with the resource)	7.29	8.15
Novelty (employed novel and creative techniques to stimulate the audience)	6.46	7.02

Table 10. IES opinions about potential indicators of quality for curriculum-based educational programs (n = 107).

Quality indicators for live interpretive programs	How necessary for positive outcomes?	Ability to consistently measure?
Connecting educational objectives of group to meanings and significance of resource	9.15	8.61
Active participation (participants are actively involved in the education experience, not just a passive receiver of verbal information)	8.94	8.76
Relevance to audience (content references and makes connections to audiences' lives)	8.83	7.31
Multiple points of view (program explicitly acknowledges multiple perspectives)	8.30	8.39
Universal linkages (program makes links to intangible meanings and higher-level concepts)	8.26	7.79
Multisensory (multiple sense are intentionally engaged)	8.13	8.70
Provocation (program explicitly provokes participants to personally reflect on content and its deeper meanings)	8.09	7.07
Hands-on (participants physically manipulate some element(s) of the environment to explore a concept or solve a problem)	8.03	8.84
Place-based (program uses the particular attributes of a place, on-site, as the context for learning)	8.01	8.56
Investigation-focused (participants actively develop and investigate a question using critical thinking skills)	7.81	8.29
Resource interaction (participants physically interact with the resource)	7.73	8.72
Multiple activities (program incorporates more than one distinct activity)	7.42	8.77
Constructivist learning (program provides a shared participatory experience coupled with reflection to illustrate lessons)	7.40	7.50
Affective messaging (story-based messaging incorporating emotional content is used)	7.19	7.14
Project-based learning (students engage in selecting, planning, implementing, and evaluating a real-world environmental project)	6.53	7.97
Group learning (participants work with others on a project, through group discussion and/or active participation)	6.52	7.90
Program control (students have input/control over content, activities, or methods of delivery)	6.20	7.44

Table 11. IES opinions about potential indicators of quality for interpretive exhibits (n = 124).

Quality indicators for live interpretive programs	How necessary for positive outcomes?	Ability to consistently measure?
Are all facts accurate, current, and complete?	9.61	9.25
Is the type size large enough to read from normal viewing distances?	9.37	9.47
Is there good contrast between print and its background?	9.30	9.31
Do the materials communicate a clear and coherent central message (or messages)?	9.09	8.53
Is the design attractive and appropriate for the message?	8.83	8.02
Clear organization (circulation pattern, text flow, division, and arrangement)	8.72	8.71
Are all elements accessible to all people (including those with disabilities)?	8.63	8.67
Are key ideas appropriately highlighted?	8.55	8.72
Are all materials clearly related to the theme or central message of the exhibit?	8.46	8.51
Are links made to intangible meanings and universal concepts?	8.41	8.17
Are multiple viewpoints acknowledged?	8.40	8.51
Does the exhibit provoke the visitor to personally reflect on content and its deeper meanings?	8.11	6.65
Orientation to theme in title (or at or near entrance)	8.10	8.85
Do text materials avoid difficult words and long, complex sentences?	8.04	8.98
Is the relevance of the message to the visitors' live made clear?	8.03	6.76
Engaging language: Does language use personal terms or ask questions of the visitor?	7.84	8.29
Are individual sections of text kept to a maximum of about 50 words?	7.60	9.31
Does the content communicate emotion to the visitor?	7.60	6.85
Is more than one sense engaged?	7.51	8.86
Are novel and creative techniques employed to stimulate the visitor?	7.23	7.52

Discussion

The results suggest a high level of agreement in general between NPS superintendents and IES about the roles and goals of interpretation and education in NPS units. Primary goals included the enhancement of the visitor experience, orientation, enhancing appreciation for park resources, building public support and promoting stewardship. Curriculum-based programs were seen to emphasize other goals as well, in particular enhancing students' academic experience, expanding audiences for park experiences and messaging, and enhancing relationships with local communities.

On average, IES perceived higher levels of achievement of interpretation and education than did superintendents, particularly with regard to building public support for the park unit. Superintendents' responses reflect perceptions of possible underperformance of interpretation and education in promoting stewardship behaviors in visitors and building public support for the National Park Service. IES responses did not reflect similar underperformance.

On-site orientation and live interpretive programs were viewed among the most critical programs for achieving park units' management objectives by both superintendents and IES. Park websites and on-site exhibits were also considered particularly important by each. IES, however, expressed opinions of greater importance of on-site exhibits, signage for visitor orientation, park films, and off-site community programs. Neither respondent group consistently ranked podcasts highly.

The most important factor in decision-making about resource allocation for both superintendents and IES was meeting the main objectives of their park units. Superintendents placed greater emphasis on responding to emergent needs and changing conditions, while IES placed greater emphasis on maintaining or enhancing successful programs, eliminating poorly performing ones, and public demands. IES were also more likely to rely on directions from superiors and to try to capitalize on Park Service-wide initiatives. Neither group strongly emphasized concerns about equitable distribution of resources across programs or prior investments to program areas. The findings suggest that IES may be somewhat more risk averse and opportunistic than superintendents on average. Moreover, they may feel greater accountability to their superiors and to the public. IES emphasized the maintenance of successful programs and the elimination of poor performing programs, reflecting a strong desire to maintain quality programs, with lesser emphasis on adapting or improving struggling program areas. Superintendents on average reflected a somewhat greater emphasis on adaptive management of existing programs to adjust to changing conditions within their units.

When asked about the use of data in making decisions for resource allocation for interpretation and education programs, 89.3% of the superintendents surveyed stated that they valued input from the Chief of Interpretation or Resource Education and 93.2% IES valued input from their staff. Other important data for both superintendents and IES included visitor demand, numbers of programs offered, and numbers of visitors served. The least used data were research results on program outcomes. IES more generally found tracking the numbers of programs and visitors more helpful than did superintendents. They also placed considerably greater emphasis on theme inventories and staff training levels.

Meanwhile, both superintendents and IES indicated that the most helpful data, whether currently existing or not, would be assessments on the impacts of programs on participants, suggesting a broad-based desire for more research in this arena. Other potentially useful data types include visitor demand for specific programs and the number of visitors attending the programs. Two of the least useful data types ironically are among those most commonly recorded, including general park visitor statistics and staff training levels and certifications. IES placed greater value on both of these forms of data than did superintendents.

The surveys' explorations of quality indicators for interpretive and education programs and exhibits have contributed to ongoing research studies explicitly testing some of IES's beliefs in this regard. Moreover, they will help to determine appropriate indicators for potential use in the standards assessment tool.

In general, the findings suggest general consensus between IES and superintendents about interpretation and education. While each tends to have different decision-making processes and somewhat different data needs, there appears to be more common ground than discrepancy.