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ENVIRONMENTAL EDUCATION TEACHER AND STUDENT NEEDS

A Teacher Survey Identifies Problems, Motivational Factors and Desired Topics for Teacher Workshops and Student Groups

PART TWO

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In order to identify teaching problems and student motivational factors and to determine which environmental topics of study are perceived to be of greatest importance for grades 4-12, the Iowa Conservation Education Center (ICEC) conducted a survey of Iowa science teachers. The background of the teachers who responded to the survey and their perceived needs for student groups were described in a recent issue of *ISTJ*. The needs for teacher workshops will be presented in this article.

The survey targeted 500 teachers of grades 4-12 in AEA 11. It was a random sample of 356 fourth to sixth grade teachers (from both self-contained classrooms and departmentalized science teaching situations) and 144 secondary teachers of biology, life science and earth science. This was about 25 percent of the secondary science teachers in AEA 11 and 5 percent of the fourth to sixth grade teachers in AEA 11.

Table 1 identifies the reasons that would prevent teachers from attending environmental education (EE) workshops at the CEC. Using a scale of 1 for a very important reason to 5 for a reason that was not important, those who had never visited the CEC rated the causes.

The two reasons rated as important (less than 3) were: "Don't want to be away from family for a weekend or a summer week" and "Not aware of workshop offerings." The ratings for elementary and secondary teachers were similar except that the most important reason for secondary teachers was "conflicts with extracurricular activities" (2.90).

Table 1
REASONS THAT WOULD PREVENT ATTENDANCE OF
EE WORKSHOPS AT THE CEC

Reason	Rating
Don't want to be away from family for a weekend or a summer week	2.57
Not aware of workshop offerings	2.63
Conflicts with extracurricular activities	3.02
Costs too much	3.14
Lack of administrative support	3.78
Uninteresting program/content	3.88
Similar programs are available closer	3.88

Table 2 shows the motivating reasons for taking EE workshops. The ratings are the averages of those who have never visited the CEC. On a scale of 1 for a very important reason to 5 for a reason that is not important, all of the cited reasons were considered important (less than 3).

The rankings for all teachers were similar to Table 2, except for two cases. The reason "College credit," was ranked first (1.79) among teachers who had brought students to the CEC, but had not attended a workshop. However, that reason was ranked last (2.23) among teachers who had previously attended a workshop. The other variation from the above table was that "personal enjoyment/revitalization" was ranked second most important (1.72) by teachers who had previously attended a workshop.

Table 2
MOTIVATING REASONS FOR TAKING EE WORKSHOPS

Reason	Rating
Getting new ideas for specific environmental education activities	1.65
Personal background knowledge	1.82
Personal enjoyment/revitalization	1.94
College credit (i.e. for salary advancement, recertification, or additional certification)	2.32
Sharing ideas with colleagues	2.33

Topics for Teacher Workshops

Teachers were asked to check three topics of interest from a list of twelve general topics, write in a specific topic if they had a special interest, choose either the basic or advanced (Adv.) level, and choose background information (Bkgd.) and/or techniques of classroom implementation (Tech.). Of the 278 returned surveys, 37 checked none of the topics, and 17 checked all of the topics, neither of which are included in Table 3 due to computer limitations. Thus Table 3 shows the results from 224 teachers.

About twice as many teachers (68%) preferred the basic level over the advanced level (35%). Sixty percent of the teachers would like workshops to cover background information, whereas 53 percent would like the techniques of classroom implementation included.

The five most popular topics, checked by at least one-third of the teachers, were (in order): plants, mammals, prairies, environmental issues, and birds.

Several specific topics were identified for each general topic. Nearly all topics specified "related to Iowa." Several topics, including plants, prairies, birds, forestry, and wetlands, also specified "identification."

Analysis of Table 3 can provide workshop planners ideas for tailoring workshops to teachers' needs. For example, a workshop on some aspect of mammals was in popular demand. However, the demand was from two distinct markets. Most elementary teachers preferred a basic level workshop (such as an overview of the mammal families in Iowa); whereas the majority of secondary teachers preferred an advanced level workshop (perhaps covering one family or group of mammals, such as Iowa canids). Both groups show a demand for including classroom techniques in addition to background information on this topic.

Table 3

TOPICS FOR WORKSHOPS CHOSEN BY ELEMENTARY/SECONDARY TEACHERS

Topic	Basic Bkgd.		Basic Tech.		Adv. Tech.		Adv. Bkgd.		Total
	E/S*		E/S		E/S		E/S		E/S
Plants	35		27		10		7		76
		14		11		11		10	40
Mammals	27		25		8		7		71
		4		4		9		12	24
Prairies	28		20		3		4		54
		9		11		14		9	33
Environmental issues	27		20		5		8		53
		6		4		15		10	34
Birds	32		19		4		4		55
		10		5		9		6	26
Pollution	18		15		9		3		42
		2		2		9		4	17
Forestry	19		8		3		4		37
		7		2		9		1	21
Soil	18		12		4		4		33
		5		1		6		2	17
Historical uses of env. resource	21		11		2		4		31
		5		3		2		3	11
Other animals	7		4		2		3		19
		3		2		4		3	10
Wetlands	3		3		2		2		6
		8		5		11		4	22
Arts & Env. Ed.	6		8		5		1		20
		3		0		2		1	7
Other	3		2		1		1		3
		1		0		0		3	7
SUBTOTALS	244		174		58		52		500
		77		50		101		68	269
SUBTOTAL %	49		35		12		10		100
		29		19		38		25	100

*E = Elementary S = Secondary

The present challenge for Conservation Education Center staff and other environmental educators is to develop strategies that overcome the identified problems, to enhance motivational factors, and to design environmental education workshops that will meet teachers' needs.