Information and Education Session

Perceived Factors Influencing Students' Interest in Wildlife

Clark E. Adams, *Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX 77843*

John K. Thomas, *Department of Rural Sociology, Texas A&M University, College Station, TX 77843*

Pei-Chien Lin, *Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX 77843*

Phyllis Kirkpatrick, *Victoria Independent School District, Victoria, TX 77901*

Abstract: The perceived influence of television, parents, books, teachers, friends, and a school class on students' interest in wildlife was examined by survey of fifth, seventh, ninth, and eleventh grade students residing in Hualien, Taiwan, and Victoria, Texas. Television and books represented the greatest perceived influence on both Taiwanese and American students' interest in wildlife whereas teachers and the school classroom were among the least influential. Few significant variations (ANOVA) by city and grade were detected. Study implications were related to focusing on teachers as neglected partners in the process of wildlife education and future research needed in wildlife education.

Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 41:497–501

Few studies have addressed to what measurable degree selected people or things influence students' interest in wildlife. Pomerantz (1977) provided the first assessment of this question by determining that television (48%), parents (35%), friends (29%), teachers (28%), books, and a school class (23%) most influenced 2,362 Michigan students' (grades 7–12) interest in wildlife. Later, Newgard (1984) surveyed 113 high school biology students and 110 college students enrolled in wildlife and fisheries science courses to determine which of these same elements had the most influence on these students' interest in wildlife. The pattern for high school biology students was television (39%), parents (36%), books (28%), friends

(25%), teachers (12%), and school class (9%). College students indicated books (80%); teacher (65%); television, parents, and school class (61%); and friends (48%). Finally, Adams et al. (1987) found that the priority influences of 94 high school biology and 110 physical science students, respectively, were television (45% and 37%), books and parents (37% and 35%), friends (28% and 28%), teachers (27% and 22%), and a school class (25% and 22%). In summary, a definite pattern of influence emerged among non-college students; i.e., television, books, and parents had the greatest influence on their interest in wildlife whereas teachers and school class usually had the least influence.

This study examined the above pattern of influences in light of international and grade level comparisons to determine whether it could be generalized at these levels. Applications of data were to provide recommendations in wildlife educational programming and additional research needs on this question.

Methods

Study Areas

The study was conducted in Hualien, Taiwan, and Victoria, Texas, in spring 1986. Hualien is situated on the eastern coast of Taiwan, has a population of 100,000 residents, and a density of 8,929 people/square mile. Victoria is situated in southeastern Texas, has a population of nearly 69,000 residents, and a density of 77 people/square mile. Nearly all of the Taiwanese population reside in urban centers compared to 80% of Texas residents. Hualien consists of a homogeneous population of Chinese descent whereas Victoria contains a blend of caucasian, black, and hispanic residents.

The Survey

Fifth, seventh, ninth, and eleventh grade students in Hualien, Taiwan (N = 389), and Victoria, Texas (N = 568), identified the degree (a lot, a little, or none, scored 2, 1, and 0, respectively) that they believed television, parents, teachers, books, a school class, and friends influenced their interest in wildlife. Surveys were administered to each grade during the class day.

Data Analysis

Frequency distributions of students' responses to each survey element by city and grade were determined. The perceived importance of each person or thing was revealed by the magnitude of mean scores. Significant ($P < 0.05$) differences in mean scores using the Student-Newman-Keul's (SNK) test identified similar perceived influence groups by order of importance. Analysis of variance (ANOVA) by city and grade determined the degree to which the 6 perceived sources of influence varied between student populations.

Results and Discussion

The pattern of people or things that influenced the Victoria students' interest in wildlife (Table 1) was similar to that found in the previous studies cited above; i.e., television had the greatest perceived influence, followed by books and parents, teacher and a school class, and friends. Students from Hualien indicated no significant difference in the perceived influential effects of books and television, a greater perceived influence by teachers and a school class, and less perceived influence of parents when compared to Victoria students.

Student comparisons by class varied also. Except for fifth graders, books were significantly more important a perceived source of influence on Taiwanese than American students' interest in wildlife as were a school class and friends. This was especially so among seventh and ninth graders when compared to their American cohorts (Table 2). Few additional significant differences were detected. Although teachers ranked higher in importance as a perceived influence in Taiwanese students' interest in wildlife (Table 1), score variance was significant at the ninth grade level only (Table 2).

Given the low perceived influential effect by teachers and the school classroom, these sources appeared to be untapped networks for communicating the status of information on wildlife to students. Such findings were not unexpected when compared to those from earlier studies that indicated, (1) teachers are largely uninformed about wildlife and related management concepts (Taylor and Samuel 1975), (2) the wildlife profession has not taken full advantage of teachers as partners in wildlife education (Burts 1977, Adams and Thomas 1986), and (3) the pre- and inservice training of wildlife professionals within universities continues to emphasize the educational needs of wildlife managers with minimal attention given to wildlife educators (Adams and Thomas 1986). However, the wildlife profession has recently responded to the inservice teacher training needs concerning wildlife through Project WILD workshops conducted by the Information and Education (I&E) divisions within state natural resource agencies (Adams et al. 1985). This effort has been fairly recent (1985) in Texas and few teachers in Victoria have been introduced to the Project WILD program and materials. No Hualien teachers have been trained in Project WILD and it is improbable that they have been introduced

Table 1. Priority sources of influence on fifth, seventh, ninth, and eleventh grade students' residing in Hualien, Taiwan (N = 389), and Victoria, Texas (N = 568), interest in wildlife as indicated by mean scores and the Student-Newman-Keul's tests of significant score differences.

City	Source of Influence[a]					
	Books	TV	Teacher	School	Parent	Friend
Hualien, Taiwan	1.45A	1.42A	1.09B	1.08B	0.99BC	0.94C
Victoria, Texas	1.39A	1.21B	1.17B	0.98C	0.93CD	0.87D

[a] Values in the same row followed by a common letter are not significant ($P < 0.05$).

Table 2. ANOVA tests comparing mean wildlife influence scores on fifth (N = 95, 191), seventh (N = 96, 140), ninth (N = 99, 146), and eleventh (N = 99, 91) grade students residing in Hualien$_{(H)}$, Taiwan (N = 389), and Victoria$_{(V)}$, Texas (N = 568), respectively.

Grade	X_H	X_V	SS[a]	F	X_H	X_V	SS[a]	F
		Parent				Teacher		
5	1.06	1.11	0.16	0.22	1.04	1.09	0.15	0.24
7	1.06	1.19	0.99	1.95	1.09	0.97	0.83	1.50
9	0.98	1.15	1.71	3.15	1.18	0.86	7.63	15.43[d]
11	0.87	1.28	8.18	14.25[d]	1.03	1.01	0.02	0.04
		Friend				Books		
5	0.80	0.94	1.31	2.24	1.25	1.37	0.92	1.62
7	0.97	0.77	2.65	4.33[b]	1.41	1.19	3.02	5.36[b]
9	1.09	0.90	2.12	3.84[b]	1.59	1.06	17.27	40.36[d]
11	0.88	0.86	0.02	0.03	1.53	1.14	7.19	17.43[d]
		A school class				A TV program		
5	1.11	1.01	0.75	1.43	1.19	1.38	2.31	4.08
7	1.19	0.89	5.44	10.96[c]	1.33	1.47	1.08	2.11
9	1.10	0.79	5.91	14.58[d]	1.60	1.31	5.21	12.57[c]
11	0.98	1.07	1.17	2.63	1.56	1.42	0.89	2.69

[a]SS = sum of squares = mean square since df = 1 in all tests.
[b]$P > F = 0.05$.
[c]$P > F = 0.001$.
[d]$P > F = 0.0001$.

to alternative wildlife education materials. Thus, similarity in study results on perceived teacher and classroom influence on students' interest in wildlife in both cities was consistent with present conditions.

Future Research Needs

The question of what persons or things influences students' interest in wildlife needs to be expanded to other states, countries, and population subgroups. It is unknown whether the patterns of perceived influence demonstrated in this study and others conducted in Michigan and Texas can be generalized to other states and countries. If future studies indicate that these patterns of perceived influence persist, then those strategies that bring teachers and their classrooms into the wildlife educational process need to be identified. For example, it remains unknown whether the state implementation of Project WILD, with its awareness emphasis, results in significantly greater influence of teachers and the school classroom on students' interest in wildlife when compared to states lacking Project WILD or those that use other wildlife programs and materials. The degree that any wildlife education materials influence student interest in wildlife is rarely explored as evidenced in the published literature (Adams and Thomas 1986). Wildlife education research is an emerging disciplinary field within the profession.

Literature Cited

Adams, C. E., C. Charles, J. Green, and M. Swan. 1985. New designs in conservation/ ecology education. Am. Biol. Teacher 47:463–469.

——— and J. K. Thomas. 1986. Wildlife education: Present status and future needs. Wildl. Soc. Bul. 14:479–486.

———, ———, L. Newgard, and C. Cooper. 1987. How a biology curriculum affects students' wildlife orientations. Am. Biol. Teacher 49:208–211.

Burts, H. M. 1977. Teaching our teachers. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 31:652–653.

Newgard, L. 1984. An empirical assessment of human orientations toward wildlife. M.S. Thesis, Texas A&M Univ., College Station. 65pp.

Pomerantz, G. A. 1977. Young people's attitudes toward wildlife. Mich. Dep. Nat. Resour., Wildl. Div. Rep. 2781. 79pp.

Taylor, S. E. and D. E. Samuel. 1975. Wildlife knowledge and attitudes of public school teachers. Proc. Annu. Conf. Southeast. Assoc. Game and Fish Comm. 29:759–765.