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FACTORS AFFECTING TEACHER USE OF PROJECT WILD

By Dolly Zosel

Project WILD (Wildlife in Learning Design) is an interdisciplinary environmental education program with the goal of developing awareness, knowledge, skills, and commitment concerning wildlife and the environment. Developed by the Western Association of Fish and Wildlife Agencies and the Western Regional Environmental Education Council, the program is utilized in 43 states and is sponsored in Wisconsin by the Department of Natural Resources (DNR) and the Department of Public Instruction (DPI).

The core of Project WILD is two activity guides, each with approximately 80 supplementary activities that can be integrated into the curricula of all major subject areas for both primary and secondary grades. To receive these materials, which are free, educators must attend a six-hour workshop designed to teach the philosophy and intended use of Project WILD. Since 1984, more than 200 workshop facilitators and 5,300 teachers have been trained in the use of Project WILD in Wisconsin.

Project WILD Wisconsin

Study Design

The national Project WILD program, the DNR Bureau of Wildlife Management, and the DNR Bureau of Information and Education are all interested in assessing the impact of Project WILD on students. The first step toward that goal was to determine how widely the program is implemented in classrooms. To determine whether and how use of Project WILD can be increased, it was also important to examine the factors that influence use of the program. In 1987, I conducted a survey to determine the amount of classroom use of Project WILD in Wisconsin and the relative importance of factors thought to influence use of the program. Following the survey techniques of Dillman (1978), I sent a questionnaire to 450 classroom teachers (270 elementary and 180 secondary) who represented a stratified random sample of Project WILD workshop participants. The response rate was 78%.

Use of Project WILD was measured in terms of the average number of activities implemented per school year after attendance at a Project WILD workshop. Then, three levels of analysis were conducted on variables thought to influence use of Project WILD. First, individual variables were analyzed, using *t*-tests or Pearson correlation coefficients, for their reported influence on use. Then three groups of these variables were further analyzed, using principal component analysis, to determine whether they formed indices (called "factors" in this study) that could reliably predict use. These groups were: (1) characteristics of the teachers who attended Project WILD workshops,

(2) characteristics of the workshops themselves, and (3) the instructional settings in which the teachers worked. The first two of these groups of variables, teacher characteristics and workshop characteristics, proved to be reliable factors, while the group of variables for instructional setting did not. Thus, for the final level of analysis, in which multiple regression analysis was used to determine the relative influence of the three groups, the instructional setting variables continued to be analyzed individually.

This article summarizes the results of the survey and my analysis and presents recommendations for improving the utilization of Project WILD in Wisconsin.

Level of Project WILD Use

Of the 351 teachers responding to a survey question on general use of Project WILD, 74% indicated they had used one or more of the activities. Of the 237 teachers who identified the number of activities they had used, 82% had used four or more different activities in one school year, and 39% had used 10 or more (Fig. 1).

Six survey questions requested evaluation of Project WILD materials, workshops, and facilitators. Almost all (87-98%) of the 350 respondents to these questions ranked these aspects of the program very highly. Many also felt that the workshop helped to increase their knowledge about wildlife (72%), their understanding of environmental issues (80%), and their interest in teaching about wildlife and environmental issues (90%).

Influence of Teacher Characteristics

The variables analyzed and grouped to form this factor were: (1) previous training in environmental education, (2) involvement in other environmental education projects, (3) use of other environmental education programs, (4) a college major in an environmental field, and (5) membership in environmental organizations. The first three of these variables were positively related to use, while the last two were not. The more importance teachers placed on environmental education and the more

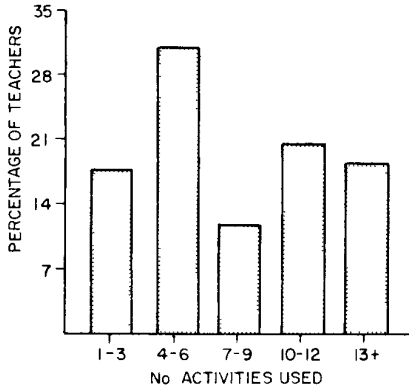

FIGURE 1. Teachers' use of Project WILD during one school year.

interest they had in teaching about wildlife, the more Project WILD activities they used. Thus, involvement in environmental education is a better predictor of use than involvement in other environmental activities.

The characteristics of individual teachers had a stronger influence on their use of Project WILD than either the characteristics of the workshop they attended or their instructional setting.

Influence of Workshop Characteristics

The following 10 variables were analyzed and grouped to form this factor: (1) extended workshop length; (2) division of a workshop into two or more meetings; (3) time spent participating in Project WILD activities; (4) time spent developing an individual teaching plan; (5) time spent practicing teaching Project WILD activities to others; (6) follow-up communication after a workshop; (7) attendance at a follow-up workshop; (8) a positive rating of the facilitator's presentation skills; (9) university credit for workshop attendance; and (10) reported positive influence of a workshop on knowledge of wildlife, understanding of environmental issues, and interest in teaching about wildlife and environmental issues.

All of these variables except workshop length were positively related to Project WILD use. The most effective workshops

provided the most time possible for practicing teaching activities (Fig. 2) and provided opportunities for follow-up workshops. University credit for workshop attendance required a follow-up activity and was also positively related to use (Fig. 3).

Workshop characteristics proved to be more influential on the use of Project WILD than the instructional settings of teachers, but not as influential as teacher characteristics.

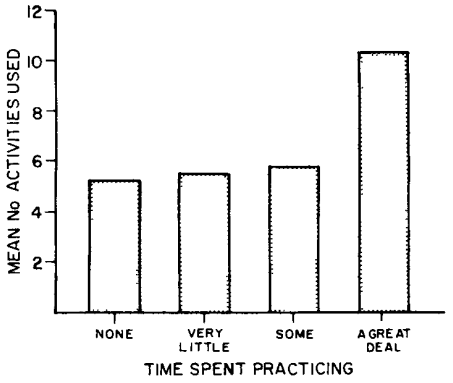

FIGURE 2. Relationship between time spent practicing teaching Project WILD activities at workshops and use of Project WILD in classrooms.

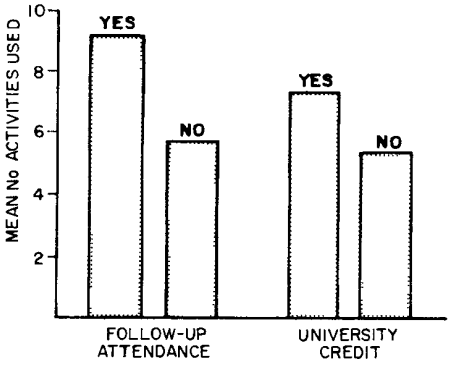

FIGURE 3. Relationship of follow-up workshop attendance and university credit for attendance to use of Project WILD.

Influence of Instructional Setting

Three instructional setting variables were used in the survey: (1) grade level, (2) administrative support, and (3) involvement in environmental education on the part of other teachers in the school. Of these variables, only grade level was significantly related to use of Project WILD.

More activities were used by teachers of kindergarten through 9th grade than by teachers of grades 10-12 or teachers of all secondary grades combined (grades 7-12). This lower level of use of Project WILD activities at higher grade levels may be due to the compartmentalization and specialization of subject areas in the upper secondary grades, which makes the incorporation of interdisciplinary activities more difficult. Comments from secondary teachers expressed a need for more environmentally related content information appropriate for specific subject areas. Many respondents (40%) reported that the workshop would have been better if geared toward specific grade levels and subject areas.

This group of variables proved to be less influential on the use of Project WILD than either teacher characteristics or workshop characteristics.

Other Influences on Use

A few respondents described conditions that limited their use of Project WILD, although these conditions were not significantly related to overall use. These limitations included classes of special education students, insufficient time to plan and use the activities, and lack of access to the outdoor areas and materials needed for activities. These are examples of particular limitations in individual teaching settings that should be considered during workshop planning in order to encourage the use of Project WILD by all types of teachers.

Conclusions and Recommendations

The importance that teachers place on environmental education and their involvement in environmental education are the most important determinants of use of Project WILD. Workshop characteristics are the second most important influence. Grade level influences use, but its influence is minimal compared to the previous two

factors. Many survey respondents indicated that the workshop had a positive influence on their environmental values and behavior.

Since workshops are the only one of these three influences that can be manipulated by DNR to increase use of Project WILD materials, knowledge of effective workshop characteristics could help Project WILD program coordinators and workshop facilitators design more effective workshops. Facilitators may also be able to encourage wider use of Project WILD in all grade levels and subject areas by specializing and individualizing ways to implement the program.

Program coordinators and workshop facilitators need to be aware of their potential influence on teachers. Development of environmental values could be an objective of workshops rather than an unintentional outcome. Specific strategies to develop values would need to be determined.

Since teachers who had received training in environmental education used more Project WILD activities than those who had not, the importance of training teachers in environmental education is indicated. Project WILD workshop components could be included in educational methods courses, and environmental values could be included as a basic part of educational philosophy.

These results and recommendations may also be helpful in implementing other supplementary environmental education programs. Agencies and organizations attempting to influence school curricula need to consider the values of the teachers and the schools they wish to reach, the constraints and limitations upon them, and the factors that motivate them to change.

Reference

Dillman, D. 1978. Mail and telephone surveys: the total design method. Wash. State Univ. John Wiley and Sons, New York. 325 pp.

Dolly Zosel completed this study while she was a researcher for the Wisconsin Department of Natural Resources, Bureau of Research. This study was also used for her M.S. in Land Resources Management at the University of Wisconsin-Madison. A former classroom teacher, she was the Assistant Coordinator for Project WILD Wisconsin from 1983-86.

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