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AN ANALYSIS OF CALIFORNIA PROJECT LEARNING TREE WORKSHOPS EVALUATIONS (1995)

> A Project Presented to the

> > Faculty of

California State University,

San Bernardino

In Partial Fulfillment of the Requirements for the Degree Master of Arts

in

Education:

Environmental Education Option

by

Susannah Mykelle MacLeod

December 1997

## AN ANALYSIS OF CALIFORNIA PROJECT LEARNING TREE WORKSHOPS EVALUATIONS (1995)

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Susannah Mykelle MacLeod

December 1997

Approved by:

Dec. 11, 1997

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#### ACKNOWLEDGEMENTS

Many people contributed to this project. I would like to acknowledge them here. First, Dr. Darleen Stoner, my Environmental Education professor, was very supportive of my efforts to continue in school under difficult circumstances. She also spent countless hours helping me to improve on this project. Kay Antunez from the California Department of Forestry and Fire Protection, provided the data and any other information I needed as well as acting as the second reader of this project. Dr. Ken Lane, California State University, San Bernardino, loaned me the necessary software I needed (Systat) to analyze the data. He also made himself available to answer questions as to the installation of the program. My best friends, David and Janina Miller, allowed me to install Systat on their computer and leave it on for months. I spent many hours imposing on their hospitality while entering data onto their computer. My parents, Walter and Pansy Gnehm, who let my children and me live with them in the summers while attending summer school. Lastly I would like to acknowledge my long suffering husband, Charles Buchanan, whose encouragement kept me going. Thank you, Charlie.

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#### INTRODUCTION

This project was undertaken to analyze workshop evaluation forms completed by just over 2000 participants who attended workshops in 1995 throughout California related to the Project Learning Tree (PLT) environmental education program. These workshops were designed for teachers and other educators working with students from preschool through eighth grade.

PLT is unique in both its curricular design and in its dissemination through workshops by volunteer presenters. PLT, originally developed for the 13 western states, is now one of the most widely used environmental education programs in the United States. PLT is available in every state, several U.S. territories, Canada, Finland, Sweden, Mexico, Japan and Brazil. It has a nationwide network of state coordinators. The more than 3,000 volunteer workshop facilitators come from varied backgrounds and skill levels. More than a quarter of a million educators have received PLT materials through workshops and have used them with their students (Comnes & Antunez, 1996).

PLT, which was originally written in 1977 as guides covering grades kindergarten through sixth and grades seventh through twelfth, was revised in 1994. The revised guide is aimed at grades Pre-kindergarten through eighth. High school modules are currently being developed.

The revised PLT materials were available in 1995.

This study analyzes evaluations completed by participants attending workshops at which the new PreK - 8 curriculum guide was introduced in 1995. The survey forms were collected by each presenter and then sent to the State Coordinator.

All of the workshops were measured with an identical survey form which participants completed at the end of each workshop. These workshops varied in length from six hours to two days. The sites ranged from close confined classrooms to outdoor settings and the presenters came from a variety of backgrounds.

The study included analyzing participant backgrounds, in what subjects PLT will be used and how often, participant satisfaction with the presentation of the workshop, and relevance of the workshop to the participants. The information analyzed from the survey included the intended use of the PLT materials, the effectiveness of the presentation, the perceived usefulness of the materials to the workshop attendee, the relevance of the workshop and the location of the workshop. The data were also analyzed to determine which regions of California had the most workshop participants. This would help determine which regions need to be emphasized for future workshops. Also analyzed was the perceived usefulness of the materials to the workshop attendees.

Until now no synthesis or analysis of the workshop

survey forms, which are used in every state at every workshop, has been done at either the state or national level.

#### LITERATURE REVIEW

Project Learning Tree (PLT) has a very rich past and is well grounded in accepted theories on how students learn. This literature review provides a summary of the past and present PLT and a look at the teaching strategies utilized. <u>Project Learning Tree 1971 - 1993</u>

PLT originally was developed jointly by the American Forest Institute (AFI) (now the American Forest Foundation) and the Western Regional Environmental Education Council (WREEC). The Western Regional Environmental Education Council was founded in 1971 to bring together resource professionals and educators who had a common interest in conservation and environmental education for kindergarten through high school youth (Schafer, 1987). PLT, developed by WREEC in 1973 with a grant from the American Forest Institute, continues to receive support from the forest products industry and is distributed through a national and international network.

PLT is considered to be one of the major accomplishments of WREEC. PLT represented a new way of developing programs and materials through industry-education cooperation (Schafer, 1987).

Support at the state level is typically provided by a state resource agency and for the Department of Education. In California, PLT is sponsored by the California Department of Forestry and Fire Protection. Project Learning Tree is an interdisciplinary activity guide that uses the "forest as a window to the natural world" (Comnes & Antunez, 1996, p. I-1) to increase students' understanding of the environment, to stimulate critical and creative thinking, and to encourage informed decision making and responsible action on behalf of the environment.

The first version of PLT, which was completed and launched in 1977, had two instructional activity guides, one for elementary and one for secondary. Each activity guide contained approximately 80 different instructional activities. Six-hour or longer Project Learning Tree workshops were given to familiarize educators with the materials. At the national level, the Project Learning Tree Education Advisory Board monitored the program, set policy and made changes and modifications as needed. 'A network of highly trained volunteer facilitators disseminated the program state by state.

Based on the success of PLT, WREEC went on to develop Project WILD and Project WILD Aquatic. These educational materials are similar in design to Project Learning Tree but have an emphasis on wildlife and aquatic ecosystems rather than forest ecology. Project WILD and Project WILD Aquatic were developed by WREEC through a cooperative agreement with The Western Association of Fish and Wildlife Agencies (Schafer, 1987). The development of Project WILD benefitted

to a great extent from the experience gained in developing Project Learning Tree.

#### Project Learning Tree 1994 - Present

In 1990 the Project Learning Tree Education Advisory Board and the PLT staff undertook an extensive evaluation as part of developing the revised PLT materials. The evaluation included planning evaluation (how it should be changed), formative evaluation (ongoing monitoring of the revision) and summative evaluation (how effective is the end product). The Board wanted to make sure that PLT would remain at the leading edge of environmental education (California Department of Education, 1995).

To assist in the planning, surveys were given to over 50,000 teachers as well as natural resource managers and technical specialists. After the materials were revised, the new program was field tested by teachers with 3000 students in several states.

The testing was conducted in conjunction with the North American Association for Environmental Education (NAAEE). The evaluation sought to determine if significant knowledge was gained by students who were exposed to PLT activities. A pretest and posttest were designed to assess varying degrees of thinking, content and construct validity. The pretest was given before exposure to the PLT workshop and the posttest afterwards. The field testing showed that statistically significant growth in knowledge was achieved

in all but two treatment group classes (Marcinkowski & Iozzi, 1994).

The overall grade earned by PLT in the <u>Environmental</u> <u>Education Compendium for Natural Communities</u> was an A<sub>+</sub>. Straight As were received in the categories General Content, Presentation, Pedagogy, Teacher Usability and Specific Content (California Department of Education, 1995). <u>Teaching Strategies in the New Project Learning Tree</u>

The revised PLT program continued to use the approach of teaching students "how to think not what to think" (Comnes & Antunez, 1996, p. I-4, 1996). Problem solving skills, decision making skills, cooperative learning and "whole language" were emphasized more than in the previous program. The revised PLT program uses constructivist learning techniques (Comnes & Antunez, 1996).

Constructivist learning involves letting students solve realistic problems by relying on knowledge created by their own experiences. Clements and Battista (1990, p. 34-35) discussed five components to contructivist learning which are as follows. (a) "Knowledge is actively created by the child, not passively received from the environment." (b) "Children create new knowledge by reflecting on their physical and mental actions." (c) "Ideas are constructed or made meaningful when children integrate them into their existing structures of knowledge. No one true reality exists, only individual interpretations of the world. These

interpretations are shaped by experiences and social interactions." (d) "Learning is a social process in which children grow into the intellectual life of those around them." (e) "When a teacher demands a learner use set mathematical standards, the sense-making activity is seriously curtailed."

Klein and Merritt (1994) pointed out how specific activities in PLT use contructivism to facilitate problem solving skills in the classroom.

PLT's use of "whole language" focuses on critical thinking skills, conceptual understandings and thematic connections across the curriculum. Whole language relates to process learning rather than learning bits and pieces of information (American Forest Foundation, 1995).

Another teaching strategy used in PLT is that of cooperative learning in which students work together in small groups to accomplish tasks and solve problems. Each person has an input into the team effort presented. This strategy helps to develop social skills of the students (American Forest Foundation, 1995).

#### DESIGN OF THE PROJECT

In 1995 a total of 2003 surveys were filled out by participants at the completion of PLT workshops throughout California (see Appendix). Eighteen of the twenty-four items on the survey were included in a data base. These items are discussed below.

1. Geographic locations of workshops based on zip codes of participants to analyze where workshop efforts could be focused in the future.

2. Four multiple response questions used to identify how participant learned about workshop, at what grade levels and in which subjects participant would use materials, and how often the materials are projected to be used.

Eleven statements evaluated the satisfaction of the participants attending the workshop. These statements have responses of 1 through 5, with 1 being strongly disagree and 5 being strongly agree. The statements collected two types of information. The statements which referred to the quality of preparation and presentation of the workshop by the facilitator were:

1. The objectives of the workshop were clear to me.

6. The facilitators were well prepared.

7. The facilitators were enthusiastic and pleasant.

8. The workshop was well organized.

10. The facilities and amenities (setting, breaks, etc.) were suitable for the purposes of the workshops.

The statements relating how well the workshop met the needs of the participant include:

2. The objectives were important to me.

3. PLT materials are appropriate for my needs.

4. The workshop activities were relevant to me.

5. The resource materials provided will be helpful when I teach about the environment.

9. The information, strategies and instructional methods shared during the workshop were helpful to me.

11. The workshop met my needs.

The eleven statements which participants used to rate the workshop were analyzed by number and percentage who selected each response, selected mean (M) and standard deviation (SD). The number may not always be 2003 since a few participants did not complete the statement section.

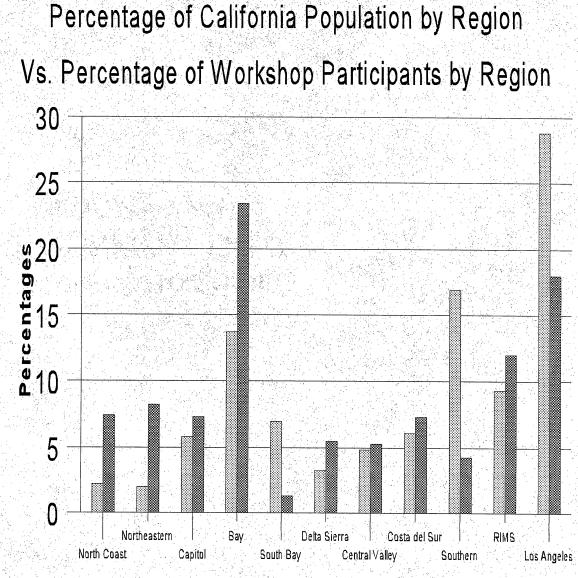
In additional response items the participant indicated if he/she had been trained before with PLT materials and if there was interest in becoming a facilitator. There was also a space in which comments could be written which was helpful to the researcher in drawing conclusions.

The data from these surveys was entered onto a software program called Systat (available from EPSS Corporation, Chicago, Illinois).

#### RESULTS AND CONCLUSIONS

#### Location of Workshops

Table 1 presents the number of workshop attendees in each of ten regions in California which have been delineated as educational groups by the California Department of Education. The counties by each region are as follows: Region 1. North Coast - Del Norte, Humboldt, Mendocino, Lake and Sonoma; Region 2. Northeastern - Siskiyou, Modoc, Trinity, Shasta, Lassen, Tehama, Plumas, Glenn and Butte; Region 3. Capitol - Sierra, Nevada, Placer, El Dorado, Sacramento, Yuba, Sutter, Yolo, and Colusa; Region 4. Bay -Napa, Solano, Contra Costa, Alameda, San Mateo, San Francisco and Marin; Region 5. South Bay - Santa Cruz, Santa Clara, San Benito, and Monterey; Region 6. Delta Sierra -Calaveras, Tuolumne, Amador, Stanislaus and San Joaquin: Region 7. Central Valley - Merced, Mariposa, Madera, Fresno, Kings and Tulare; Region 8. Costa Del Sur - San Luis Obispo, Kern, Santa Barbara and Ventura; Region 9. Southern - San Diego, Orange and Imperial; Region 10. RIMS - Riverside, Inyo, Mono and San Bernardino; and Region 11. Los Angeles. The data are also displayed in Figure 1 - Percentage of California Population by Region Vs. Percentage of Workshop Participants by Region.



## **Regions of California**



Percentage of California Population by Region Percentage of Workshop Participants by Region

Figure 1.

The largest number of workshop participants were the "Bay" region (23.4%) and Los Angeles (18.0%). Although the percentage of workshop participants was higher than the percentage of the general population in the "Bay" region, it was lower than the general population in Los Angeles County (see Figure 1). In the North Coast, Northeastern, Capitol, Bay, Delta Sierra, Central Valley, Costa Del Sur and RIMS regions the percentage of workshop participants exceeded that region's percentage of the population of the state.

The percentage of workshop participants in the South Bay and Southern regions was far less than the percentage of the population in those regions. These regions did not have any workshops hosted by colleges whereas regions such as the North Coast had college sponsored workshops with large numbers of attendees (K. Antunez, personal communication, March, 1996).

Thus, a comparison of the percentage of workshop participants to California's total population, shows that the South Bay, Southern and Los Angeles regions need to be emphasized for future PLT workshops.

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#### Table 1.

Location of Workshops by California Education Regions

Regions	N = 2003	Percentages
1. North Coast	154	7.4
2. Northeastern	167	8.2
3. Capitol	147	7.3
4. Bay	477	23.4
5. South Bay	20	1.3
6. Delta Sierra	106	5.5
7. Central Valley	94	5.3
8. Costa Del Sur	149	7.3
9. Southern	85	4.3
10.RIMS	240	12.0
11.Los Angeles	364	18.0

#### Sources of Initial Information About PLT

According to the data displayed in Table 2, PLT workshop participants often indicated that they learned about PLT from another teacher (42.3%). Based on this researcher's review of the questionnaires, it is her belief that a large proportion of these respondents were college students, most of whom had not yet become credentialed teachers. These respondents tended to list "college" as the "school" and to check many grade levels for intended use of PLT, suggesting that the PLT workshop was incorporated into a college class or recommended by a college instructor. A smaller proportion of participants who checked that

they had learned about PLT from another teacher were practicing teachers. These participants listed a school address and most often checked only one grade level. To reach more practicing teachers, displays at teacher conferences and articles in educational journals might be good ways to promote PLT materials and workshops.

The next highest listing, "Other"(30.25%), tended to be employees of government agencies such as the National Parks and California Department of Fish and Game, and recreation leaders for city and county parks and recreation departments. In comments written on the questionnaires this researcher found that PLT materials have been useful to summer programs they have initiated with the public.

The category "Through Students" received the lowest ranking (1.7%). This category appears to be unclear.

#### Table 2.

#### How Did You Learn About PLT?

		and the second
Learned from:	N = 2003	Percentage*
School Administrators	242	12.0
PLT Staff	128	6.4
Publications	121	6.0
Professional Organizations	121	6.0
Teacher	847	42.3
Through Students	34	1.7
Exhibit	28	1.4
Other	606	30.3

\*Percentages add up to more than 100% because there were multiple choices available.

#### Intended Grade Level For Use of PLT

Since many participants tended to check multiple grade levels, exact analysis of grade level use was difficult. Most participants (see Table 3) indicated that they planned to use PLT in elementary grades. The percentages in grades K through 5 ranged from 21% - 39%. In middle school, grades 6 through 8, the percentages ranged from 13% - 34%. The percentages in grades 9 through 12 ranged from 5.2% - 8%. College use was not broken up by class level and was 3.6%. The high percentages at grades K-8 is expected because PLT is designed as a PreK - 8 guide. (New secondary PLT modules were not available during the year these surveys were done). This would account for the low percentages of intended use by teachers in grades 9 - 12. The college course use, at

3.6%, was not considered by this researcher to be a valid future use based on reviewing the rest of the answers on the questionnaires. This response appeared to be checked by college students, who were not necessarily going to become college instructors.

College students who were studying to be teachers made up 36.6% of the workshop participants (K. Antunez, personal communication, March, 1996). Exact analysis of grade levels was complicated because these participants checked multiple grades. A practicing teacher would not be apt to check all grades K-6 or K-8 unless employed as a resource teacher or projecting potential future use.

The category, PreK - 12, was primarily checked by nonformal educators: docents and park rangers who work with the public.

#### Table 3.

At What Grade Level(s) Will You Use PLT?

Grade Level	N = 2003	Percentage*
РгеК	117	5.8
K	431	21.5
1	583	29.1
2	621	31.0
3	710	35.5
4	781	39.0
5	793	39.6
6	688	34.4
7	361	18.0
8	259	13.0
9	161	8.0
10	147	7.3
11	113	5.6
12	105	5.2
College Course	73	3.6
Pre-K - 12	201	10.0

\*Percentages add up to more than 100% because there were multiple choices available.

#### Intended Subjects For Use of PLT

The data listed in Table 4 show PLT is projected to be most used in teaching science (86.5%) with a strong

potential use in all other subjects such as math (61.2%), language arts(61%), social studies (55%), visual arts (43%), physical education(36%) and performing arts (27%). Although 86.5% of the participants checked that they would use PLT in teaching science, this number may in fact be too low. This

impression is due to observing how the forms were filled out by some of the respondents who checked the box to the right of the word "science" rather than correctly to the left. In most cases in which "science" was not checked, "visual arts" was. It did not make sense to this researcher that educators would use PLT in math, language arts, social studies and visual arts, but not in science. This line of reasoning also lead me to believe that the number who checked "visual arts" may be too high. Of the 279 respondents who checked "other," 26 wrote that they would use PLT to teach environmental education.

Thus according to the data, environmental education is perceived to be closely associated with science but is useful in other academic areas as well. Table 4.

Subject	N = 2003	Percentage*
Science	1733	86.5
Math	1226	61.2
Language Arts	1223	61.0
Social Studies	1108	55.3
Visual Arts	865	43.2
Physical Education	719	36.0
Performing Arts	537	27.0
Other	279	13.9

In What Subjects Will You Use PLT?

\*Percentages add up to more than 100% because there were multiple choices available.

#### Proposed Frequency of Use of PLT

"Weekly" received the highest rating (39.2%) along with "monthly" (35.8%) for proposed frequency of use (see Table 5). It appeared to this researcher that almost all the "weekly" answers came from college students. The respondents who answered "never" were mostly high school teachers.

Table 5.

How often?	N = 1916	Percentage
Weekly	751	39.2
Monthly	685	35.8
Several times a year	470	24.5
Never	10	.5

How Often Do You Think You Will Use PLT Activities?

Two other response items listed on the survey inquired if the participant had previously been trained in the PLT materials and if the attendee would be interested in becoming a facilitator. Only 4% responded that they had been previously trained in the PLT materials.

A significant percentage of workshop participants were interested in becoming PLT facilitators (9.6%). This interest shows a belief in the quality of the materials presented.

#### Evaluation Related to Actual Workshop

There were eleven statements to which workshop participants rated the PLT workshop that was just

experienced. Statements 2, 3, 4, 5, 9 and 11 concerned the effectiveness of the workshop. Statements 1, 6, 7, 8 and 10 rated the quality of the presentation. These eleven statements had possible responses which ranged from 1(strongly disagree) to 5(strongly agree). The percentages of responses to each statement are displayed in Tables 6. through 16. The mean response(M) and standard deviation (SD) are provided for each table.

Table 6.

Statement 1. The Objectives of the Workshop Were Clear to Me.

			「「「「「「「「」」」」 という 「「」」
	Response	N = 1949	Percentage
	1 (strongly disagree)	14	• 7
•	2	8	.4
	3	97	5.0
	4	500	25.7
	5 (strongly agree)	1330	68.2
	M = A G GD = 0 G	71	

## Table 7.

#### Statement 2. The Objectives Were Important to Me.

Response	N = 1953	Percentage			
1 (strongly disagree)	6	.3			
2	21	1.0			
3	110	5.7			
4	508	26.0			
5 (strongly agree)	1308	67.0			
M = 4.6 $SD = 0.676$					

Table 8.

Statement 3. PLT Materials Are Appropriate For My Needs.

Response	N = 1957	Percentage
1 (strongly disagree)	4. <b>5</b> Arg. 10 Arg. 10 Arg. 10	.2
2	31	1.7
3	127	6.5
4	473	24.1
5 (strongly agree)	1321	67.5
	0	

M = 4.6 SD = 0.708

## Table 9.

Statement 4. The Workshop Activities Were Relevant to Me.

· · · · · · · · · · · · · · · · · · ·			
Response	N = 1952	Percentage	
1 (strongly disagree)	5	.2	
2	27	1.4	
3	132	6.9	
4	510	26.1	
5 (strongly agree)	1278	65.4	
M = 4.5 $SD = 0.7$	05		

### Table 10.

<u>Statement 5. The Resource Materials Provided Will Be</u> <u>Helpful When I Teach About the Environment.</u>

	F	
Response	N = 1953	Percentage
1 (strongly disagree)	4	.2
2	15	.8
3	59	3.1
4	325	16.6
5 (strongly agree)	1550	79.3
M = 4.7 $SD = 0.5$	69	

## Table 11.

## Statement 6. The Facilitators Were Well Prepared.

Response	N = 1940	Percentage
1 (strongly disagree)	5	.2
2	6	.3
3	48	2.5
4	284	14.6
5 (strongly agree)	1597	82.4
M = 4.8 SD = 0.51	8	

Table 12.

## Statement 7. The Facilitators Were Enthusiastic and Pleasant.

Response	N = 1941	Percentage
1 (strongly disagree)	5	.2
2	9	
3	37	1.9
4	240	12.4
5 (strongly agree)	1650	85.0
M = 4.8 $SD = 0.4$	98	••••••••••••••••••••••••••••••••••••••

## Table 13.

<u>Statement</u> 8	<u>3. Tł</u>	<u>ne Worksho</u>	op was V	Vell-Organized.

Response	N = 1938	Percentage
1 (strongly disagree)	5	. 2
2	14	.7
3	60	3.1
4	325	16.8
5 (strongly agree)	1534	79.2

Table 14.

Statement 9. The Information, Strategies and Instructional Methods Shared During the Workshop Were Helpful to Me.

······································		
Response	N = 1944	Percentage
1 (strongly disagree)	5	.2
2	15	.8
3	89	4.6
4	405	21.0
5 (strongly agree)	1430	73.4
M = 4.6 SD - 0.6	25	

## Table 15.

Statement 10. The Facilities and Amenities (Setting, Breaks, etc.) Were Suitable for the Purpose of the Workshop.						
<u>Bleaks, etc./ were sultable for the fulpose of the workshop.</u>						
Response	N = 1927	Percentage				
1 (strongly disagree)	10	.5				
2	15	.7				
3	78	4.1				
4	418	21.7				
5 (strongly agree)	1406	73.0				
M = 4.6 SD = 0.6	44					

## Table 16.

Statement 11. The Workshop Met My Needs.

į.			
	Response	N = 1943	Percentage
	1 (strongly disagree)	8	•4
	2	18	.9
1	3	109	5.7
	4	409	21.0
	5 (strongly agree)	1399	72.0
	M = A G GD = O G	71 - 10 - 21 - 10 - 10 - 10 - 10 - 10 - 1	at Autor that is a state of the second se

= 4.6 SD = 0.671

#### Analysis of Statements 1 through 11

Overall, there was an extremely high level of satisfaction with the workshops. The mean response of each statement ranged from 4.5 to 4.8, with 5 being strongly agree.

The statements 1, 6, 7, 8 and 10 referring to the quality of the preparation and presentation of the workshop by the facilitator received responses with a mean range from 4.6 to 4.8. These highly favorable responses indicate that the volunteer presenter program is a success. As a result of the highly competent volunteer facilitators the PLT program proves to be cost effective.

Statements 2, 3, 4, 5, 9 and 11 related how well the workshop met the needs of the participants. Mean of these statements ranged from 4.5 to 4.7. Thus, an overwhelming majority found the workshop useful.

This researcher noticed that participants who checked all grade levels for intended future use often gave a "5" rating to each statement. Participants who checked all grade levels may be college students who were projecting future use (and therefore did not know what grade they would be teaching). If those participants were college students they may have other reasons for enthusiastically agreeing with all statements: lack of classroom experience, projected idealistic use, or evaluating college instructor before grade is received for course.

#### <u>Conclusion</u>

The even distribution of favorable to highly favorable responses (mean = 4.5 - 4.8) indicates that the PLT workshops were overwhelmingly successful. The strengths of the workshops were the excellent presentations by skilled and dedicated facilitators and the relevance of the PLT materials to the attendees. Another indicator of participant satisfaction was the nearly 10% of attendees who expressed a desire to become facilitators themselves. The uniformly high approval rating of PLT workshops demonstrate the high value of PLT to educators and is a strong recommendation for the expansion of PLT in the future.

#### RECOMMENDATIONS FOR THE FUTURE

#### <u>Survey</u>

The formatting of the current survey resulted in some inaccuracies in data. For example, it is unclear which workshop participants were actually college students in preservice methods classes. College students may have checked several grade levels for intended use since they did not have a permanent assignment. Some of the college students probably checked "college course" implying they would use PLT as a teacher of a college course when, in fact, this question was aimed at college instructors. This confusion could be avoided if "check here if student in a class preparing to be a teacher" was added and those that checked this response should be instructed to

In the four questions pertaining to how the participant learned about PLT, how often would the participant would use the PLT materials and what grade(s) and subjects the participant would use the PLT materials in, the check lines associated with these responses should be written to the right of each answer. Currently the check lines are written to the left. Adding a space after the line would be helpful. For example: "In what subjects will you use PLT? Science\_\_\_\_ Math\_\_\_ Language Arts\_\_\_\_ Social Studies\_\_\_\_ .

"skip" the intended grade level of use question.

In statements 1 through 11 rating the workshop, the rating "Strongly Agree"(5) should be on the left side and

"Strongly Disagree"(1) should be on the right side. There were several surveys in which the participant checked all eleven answers as "1" and wrote positive comments in the comments section. In some surveys in which all "1" answers were given, the participants crossed out the original responses and re-wrote them as "5"s and added a message saying they had filled out the form incorrectly. In these cases I reversed their answers. If there were no written comments or any other indication in writing that the person was confused I entered the answers as originally provided. The confusion caused by this might contribute to a very small percentage error of this study.

#### New Target Audiences

The PLT materials presented in the 1995 workshops were written specifically for grades PreK - 8. In 1996 PLT curricula designed to be used in grades 9 - 12 were presented at workshops. An analysis of 1996 workshops should confirm attendee satisfaction with those materials.

To target the PreK market, workshops need to be promoted to early childhood education students through their college instructors. Classes in environmental education need to be part of the methods courses attended by students studying to become pre-school teachers. Practicing preK teachers should be trained to use PLT materials. Advertising PLT workshops in early childhood education journals and mailing PLT announcements to pre-schools would help to increase the

turnout of preK teachers at PLT workshops.

PLT is rich in reading and writing skills (California Department of Education, 1995). Many activities in the PLT guide stress higher thinking and research skills and could be integrated successfully into the literacy programs of elementary schools. Thus, PLT workshops could be advertised at literacy conferences through brochures and posters as well as by conference presentations.

#### APPENDIX



#### PROJECT LEARNING TREE PARTICIPANT SURVEY FORM



Thank you for your interest in Project Learning Tree. Be sure to include your name and address if you would like to receive <u>The Branch</u>. PLT's national newsletter which is mailed two times a year.

Name			
School/Organization		· · · · · · · · · · · · · · · · · · ·	
Mailing Address		an in an	
City/State/Zip		· · · · · · · · · · · · · · · · · · ·	
Workshop Date Workshop I	Location		
Workshop Facilitators	·····	·.	
How did you learn about PLT?School AdminC TeacherThrough StudentsExhibitO			Professional Organization
At what grade level(s) will you use PLT? PreK K 9th10th11th12thCollege Course		_3rd4thSth	6th7th8th
In what subjects will you use PLT?ScienceNath Performing ArtsOther (specify)		Social Studies	_Visual ArtsPhys Ed
How often do you think you will use PLT activities? V Please check here if you do not plan to use PLT Now, please help us plan future workshops by rating the PL			
<ol> <li>The objectives of the workshop were clear to me.</li> </ol>			Strongly Agen
<ol> <li>The objectives of the workshop were clear to me.</li> <li>The objectives were important to me.</li> </ol>			Strongly Agree
	,		Strongly Agree
3. PLT materials are appropriate for my needs.			Strongly Agree
4. The workshop activities were relevant to me.	Strongly Disagree	· · · · · · · · · · · · · · · · · · ·	Strongly Agree
5. The resource materials provided will be helpful when I teach about the environment.	Strongly Disagree	<del></del>	Strongly Agree
6. The facilitators were well-prepared.	Strongly Disagree		Strongly Agree
7. The facilitators were enthusiastic and pleasant.	Strongly Disagree		Strongly Agree
8. The workshop was vell-organized.	Strongly Disagree		Strongly Agree
9. The information, strategies and instructional methods shared during the workshop were helpful to me.	Strongly Disagree	<del> </del>	Strongly Agree
<ol> <li>The facilities and amenities (setting, breaks, etc.) were suitable for the purposes of the workshop.</li> </ol>	Strongly Disagree	·	Strongly Agree
11. The workshop met my needs.	Strongly Disagree		Strongly Agree
The PLT staff would appreciate any further comments you	wish to share with us:		

\_\_\_\_ Check here if you are interested in becoming a PLT facilitator.

\_\_\_\_ Check here if you were previously trained in the original PLT materials.

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