



Iowa Project WET Follow-up Research on Pre-service Workshop Participants

Iowa Project WET sent a follow-up survey to 186 past participants at addresses provided by the University of Northern Iowa Alumni Association in September, 2006. Some of the forms were returned as bad addresses or "addressee unknown" reducing the sample size to 164. Thirty-six members of the sample returned the survey. All members of the sample were offered a free Project WET Curriculum and Activity Guide Copy Pages CD regardless of participation in the survey. Forty-three members of the sample requested the free CD.

Responses to select survey questions (see below) were used to place each individual respondent into the Concerns-Based Adoption Model (CBAM, <http://www.iittl.unt.edu/IITL/publications/studies2b/CBAMLoU.htm>), an adaptation of the Halls Levels of Use of an Innovation (Hord, S. M., Rutherford, W. L., Huling-Austin, L. Hall, G.E. (1987). *Taking Charge of Change*. Alexandria, VA : Association for Supervision and Curriculum Development.), which was used by Iowa Project WET to evaluate the level of implementation of in-service workshop participants in a past evaluation project.

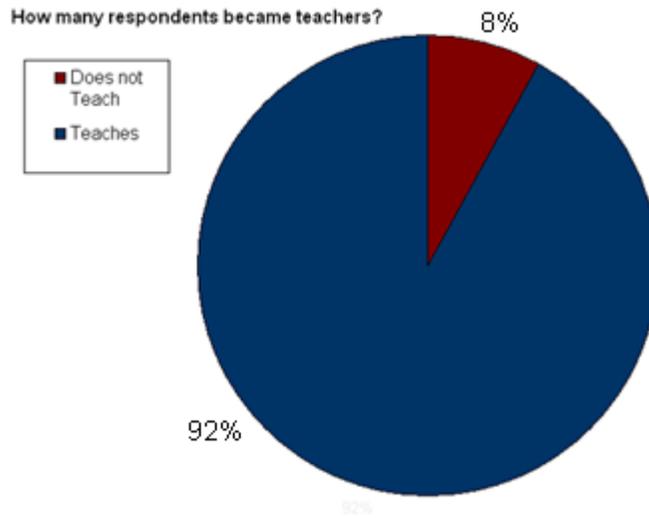
The sample of individuals used in this study come from a population of more than 2000 pre-service workshop participants who took their WET workshop from University of Northern Iowa. The sample participants all took the workshop as an out of class assignment for Elementary Science Methods. At other colleges and universities the class may be paired with Social Studies Methods or a Secondary Science Methods course instead. At other colleges and universities the workshop may be completely voluntary or for extra credit. The sample individuals did have the opportunity to substitute a different assignment (additional hours in a classroom), however most take the workshop. For all of these individuals the workshop was 4 hours out of class time (an additional 2 during regular class hours) and was free of charge. Based on the results, it is important to note that these participants were all in a science methods course.

Questions used to assign Use Level

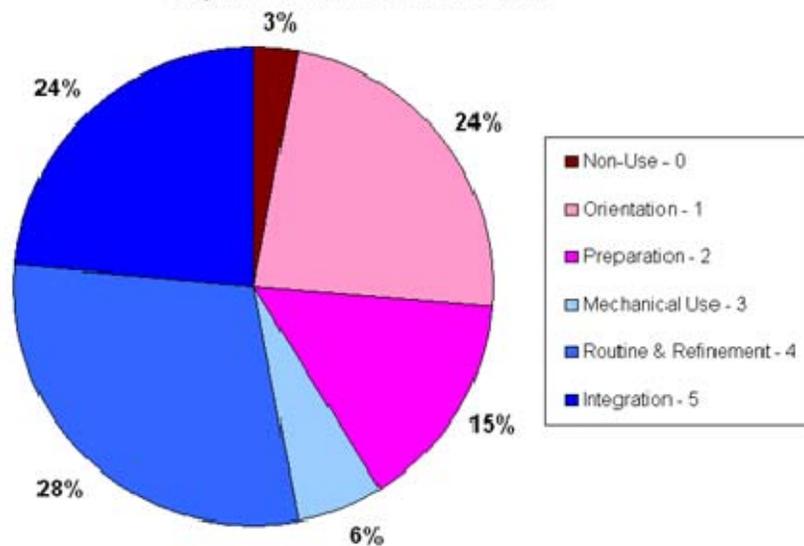
- How many Project WET activities have you used since takes the Project WET Workshop?
- How many Project WET Activities did you use in your classroom last year?
- How many Project WET activities have you done with your class that were NOT introduced as a part of your Project WET workshop?
- What is your favorite Project WET activity?
- Why?

- I feel I am (check one):
 - using more Project WET activities than fit in my curriculum
 - using all the Project WET activities that currently fit into my curriculum
 - could use more Project WET activities in my curriculum
 - haven't really thought about how the activities I use fit into my curriculum
- How could Iowa Project WET assist you in overcoming these [listed in another question] obstacles?

Fig. 1 - Eight percent of the respondents did not become Teachers. These individuals were removed from the rest of the results. Fig. 2 (below) - Respondents assigned a level of use.



Current Educators (former Preservice Project WET Workshop Participants) level of use of Project WET Activities in the classroom.



Description of Levels and Pre-service Implementation at each Level

Level 0 - Non-use

In Hall's Levels of use Non-use is generally described as a person with no knowledge whatsoever about the product/activity. For this study, a respondent was placed into level 0 if he/she had not use any Project WET materials since leaving the university and had no intention to do so. 3% of the respondents fit into this category. These respondents had not used any activities since completing the workshop and showed no inclination or intention to do so in the future. None of the respondents specifically stated that they would not use Project WET, these respondents hadn't used the book, hadn't thought about using the book, and did not suggest a way for Iowa Project WET to assist them in using the book.

Level 1 - Orientation

Respondents who indicate that they have not used an activity since leaving the university and have not made an effort to identify activities that would fit into his/her curriculum but are aware of Project WET are at the Orientation Level. These participants are different from those placed at Non-Use because they indicated that there is an obstacle to their implementation (often simply not having had enough time yet). 24% percent of participants are at this level. *Evaluation implications:* There are many reasons that a new teacher may not have implemented activities. There may be little planning time, particularly in the first years when a teacher is learning his/her local curriculum. The materials may not be available or the teacher may not know how to get the materials from available sources. However, these individuals (unlike those of Level 2) show no effort to overcome any of the obstacles. Iowa Project WET should review closely the comments of this group and the level 2 group. WET should develop new materials for distribution during the pre-service workshops that will assist new educators in overcoming obstacles. Iowa Project WET should also develop a plan for re engaging these individuals.

Level 2 - Preparation

Respondents were placed in this category if they have not implemented any activities since leaving the university but still indicated a plan to do so. Most of the 15% of respondents in this category indicated needing more time to learn their own curriculums and more planning time to include Project WET activities. Many of these participants indicated that Iowa Project WET could help them to overcome one or more obstacles to implementation, particularly by assisting in identifying activities for non-science classes or developing early-childhood WET activities. *Evaluation implications:* This is a group of respondents that still intend to implement Project WET and likely have just not had the time to do so yet. Iowa Project WET should develop resources to assist this group in overcoming any identified obstacles. One example might be to work with AEA's to have kits available for some of the more material intensive Project WET activities and those activities which are presented during the Pre-service workshops.

Level 3 - Mechanical Use

Respondents that indicated using Activities presented during their preservice workshop (and no other Project WET activities) have been placed into this category. These educators have taken what they learned in the workshop and replicated it with their own students. Responses indicate that the 6% of participants in this group have selected the workshop activities that fit their curriculums and are implementing those activities on a regular basis. *Evaluation implementations:* This group has reached an acceptable level of implementation, however Iowa Project WET should consider reaching out to these participants with professional development opportunities so that they can learn how to take advantage of more Project WET resources. Generally 5-8 activities are presented during a workshop. These activities may not be the best fit activities for these educator's individual curriculums. Iowa Project WET could make available to these participants information/resources that would encourage these educators to delve deeper into the book. Over time, some of these educators may do this on their own. It was surprising to me that so few participants fell into this category and encouraging that so many fell into the last two levels.

Level 4 - Routine Use and Refinement

This is respondents who indicated routinely using activities presented in the workshop and are actively reviewing the guide for additional activities. 28% of respondents are in this category. *Evaluation implications:* Participants who have reached this level or higher are true success stories. These teachers are unlikely to replace their implementation of Project WET with the "newest thing" because they have actively integrated Project WET into their curriculum and as their curriculum changes they seek out new ways that Project WET activities can assist them in reaching their goals. Iowa Project WET should be sure that these teachers know about new Project WET resources and if possible provide additional advanced professional development beyond that which is offered to users who are within levels 1-3. These would also be ideal participants to target with information about IOWATER, the Iowa Children's Water Festival, and other partner water programs.

Level 5 - Integration

These respondents have gone beyond the activities presented in the workshop and are already implementing additional activities which they have identified as fitting their curriculum. 24% of respondents are at this level. *Evaluation implications:* Like the respondents at level 4, these are teachers who have successfully implemented Project WET. They are very likely to add more activities as their curriculums change or as new resources become available to them. Iowa Project WET could offer additional advanced professional develop to these individuals.

Additional Comments: 36 surveys were returned, however 42 Free CD's were requested. There are teachers who did not participate in the survey (maybe it took too long, maybe they felt guilty about not using the materials at the level they would think we would expect..) who are still interested enough in WET to want the CD. This includes many of

the individuals who were placed into level 1 (based on their survey responses). Either these individuals are requesting the CD for a colleague or they do have intentions to use the Guide in the future.

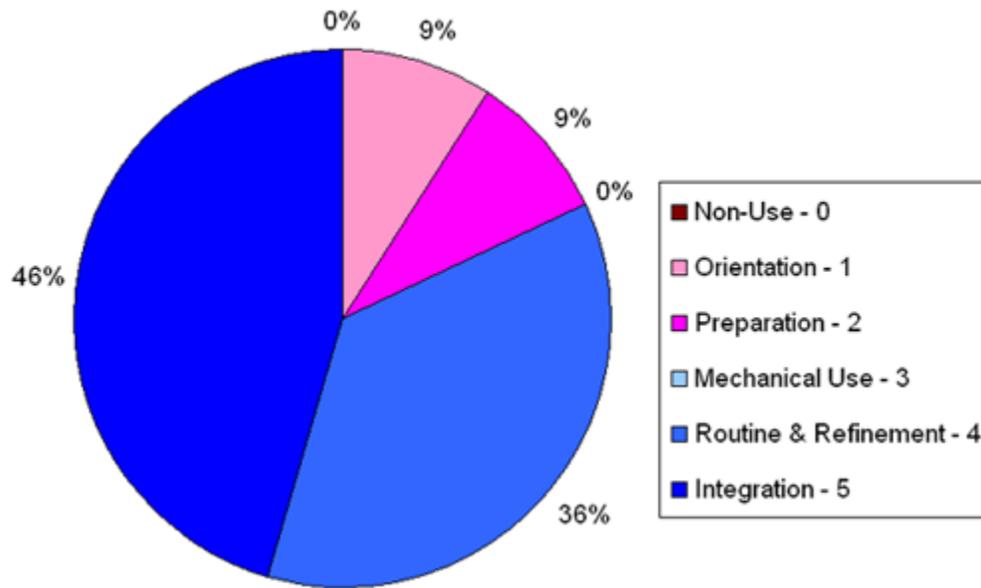
Individual respondents identified using anywhere from 0 to 24 activities a year in their classrooms. This is consistent with the numbers of activities reported by in-service workshop participants in past evaluations. Based on the results so far most educators implement 3-5 activities per year, which is consistent with the in-service workshop participant results.

There were several obstacles that respondents indicated as hindering their implementation of the program. The number one obstacle was money for materials (18 respondents). It may be that Pre-service workshop participants are at a disadvantage compared to in-service workshop participants when it comes to materials. An in-service participant already has a classroom full of materials and the Project WET Activity supplies may be the only new materials he/she has to budget for the new year. A pre-service teacher can not count on selecting any materials for her own classroom in her first year.

A second obstacle was time (planning time-14 respondents, class time 16 respondents). Many of the respondents that gave these obstacles were those placed in the lower levels of use. Additional Project WET professional development opportunities could give these teachers the time they need to plan implementation and stronger connections with the curriculum could better justify the use of class time. This last issue of connection to the curriculum was also directly identified by 16 participants who do not teach science. Most of these individuals indicated they were math, social studies, or early childhood educators and did not teach science. Only one of these participants indicated working in a school district in which she is not allowed to select activities for her own classroom and instead much use the activities approved by the district (a respondent currently working in Texas). The remaining respondents made comments like "not a lot of application for preschool", "only teach math", "haven't taught appropriate subjects up to this point".

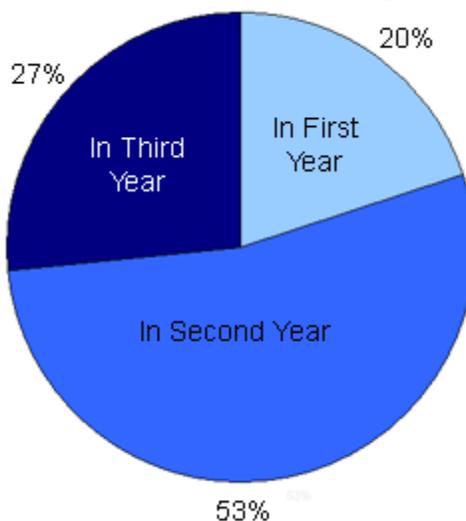
The pre-service workshop includes an activity that was designed to illustrate that there are Project WET activities which fit every subject area, however it seems that for some participants this activity was not convincing. An improved activity and follow-up support may go a long way toward leading more participants into the higher levels of use. This will be the first issue addressed by the research team. Figure 3 illustrates the levels of use for science teaching respondents only. Mechanical Use completely disappears from this group and levels 4 and 5 combined equal 82% of the group. This is a further indication that when the pre-service workshop is held in conjunction with a science methods course, the participants can identify the program with science but have difficulty identifying how the program will integrate into other subjects.

Levels of Use for Educators who teach any science.



The results are encouraging. The majority of pre-service participants are using the materials in their classrooms. There may be ways to reengage most of those who have not yet used the materials. Iowa Project WET will be developing new materials for use during the pre-service workshop and as follow-up (web based and/or additional professional development events) to assist teachers in overcoming the obstacles to implementation, particularly in identifying how WET fits into the curriculum. The Project WET USA Evaluation has already identified the need for more/better early childhood activities. An updated guide with new Pre-K activities will further help us reach some of these participants.

Number of Years Teaching



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