Attachment 3: Comparison of Teacher Post-PD Initial vs. Nonresponse Questionnaire Results

This document compares responses from teachers who responded to the initial post-PD questionnaire with the responses from teachers who responded to a follow up non-response post-PD questionnaire. For each question, the number of teachers who responded to the respective questionnaires (n), descriptive statistics (frequencies, means/standard deviations), and significant difference test results are reported. Chi square tests were conducted when the response choices were nominal (e.g., yes/no) and independent t-tests were conducted when response choices were ordinal (e.g., 1-5 point Likert-type). P values are reported to indicate if initial and non-respondent teachers' responses are statistically significantly different ($p<.05$).

Note: The numbers in parentheses immediately following the response choices, such as (55), (1), (0), are the values assigned to each response.

PDQ6 How long ago did you complete professional development focused on watersheds or water quality issues (also known as a Meaningful Watershed Education Experience professional development or MWEE PD)?
❍ I did not complete a MWEE PD (55)
❍ Less than 1 week ago (1)
❍ 1-2 weeks ago (2)
❍ 3-4 weeks ago (3)
❍ 5-8 weeks ago (4)
❍ 9-12 weeks ago (5)
❍ More than 12 weeks ago (6)

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	133	4.40	1.44	-1.06	0.29
Non-response questionnaire	22	4.73	0.55		

PDMQ3   Are you currently a PreK-12 teacher or educator?
❍ No (0)
❍ Yes (1)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	100%	0%	N/A	1	N/A
Non-response questionnaire	23	100%	0%			

Thank you Thank you for completing this survey! Please click on the Submit button below.

PDMQ5   In what setting do you teach?

❑ Public school (1)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	94%	6%	1.46	1	0.61
Non-response questionnaire	23	100%	0%			

❑ Private school (2)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	6%	94%	1.46	1	0.61
Non-response questionnaire	23	0%	100%			

❑ Non-formal education (e.g., environmental centers, zoos, museums, interpretive programs at local or state level parks, youth organizations) (3)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	3%	97%	0.71	1	1.00
Non-response questionnaire	23	0%	100%			

❑ Home-school (4)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	1%	99%	0.17	1	1.00
Non-response questionnaire	23	0%	100%			

❑ Other (88)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	1%	99%	0.17	1	1.00
Non-response questionnaire	23	0%	100%			

PDGMQ1   In which region did you teach this past year? (check one)
○ California (1) (Initial questionnaire – 17% / Non-response questionnaire – 0%)
○ Chesapeake Bay (2) (12% / 17%)
○ Great Lakes (3) (17% / 17%)
○ Gulf of Mexico (4) (15% / 26%)
○ Hawaii (5) (1% / 4%)
○ New England (6) (14% / 13%)
○ Pacific Northwest (7) (18% / 13%)
○ Other (please describe) (88) _____ (7% / 9%)

	n	Chi Square statistic	df	p value
Initial questionnaire	133	8.23	7	0.17
Non-response questionnaire	23			

PDQ10   In which grade level(s) do you primarily teach? (select all that apply)
❑   PreK (1)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	1%	99%	0.17	1	1.00
Non-response questionnaire	23	0%	100%			

❑   Elementary (2)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	46%	54%	0.98	1	0.37
Non-response questionnaire	23	35%	65%			

❑   Middle (3)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	68%	32%	0.05	1	0.82
Non-response questionnaire	23	65%	35%			

❑ High (4)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	27%	73%	0.58	1	0.46
Non-response questionnaire	23	65%	35%			

❑ Other (88)

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	0%	100%	N/A	1	N/A
Non-response questionnaire	23	0%	100%			

PDGQ2   What subject(s) do you primarily teach? (select one)
○ Science (1) (Initial questionnaire – 45% / Non-response questionnaire – 61%)
○ Math (2) (6% / 13%)
○ Language Arts (3) (5% / 0%)
○ Social studies (4) (1% / 0%)
○ Fine arts (5) (0% / 0%)
○ Multiple disciplines, including science (6) (41% / 17%)
○ Multiple disciplines, not including science (7) (2% / 0%)
○ Other (88) (1% / 9%)

	n	Chi Square statistic	df	p value
Initial questionnaire	133	13.41	7	0.04
Non-response questionnaire	23			

About PD   Please answer all of the following questions based on the last MWEE (watershed education) professional development you participated in.

PDQ19   What was your PRIMARY reason for participating in the MWEE professional development? (check one)

- ○ To obtain information and resources for teaching (1) (Initial questionnaire – 70% / Non-response questionnaire – 65%)
- ○ Personal interest in the topic of the professional development (2) (14% / 9%)
- ○ To obtain continuing education, recertification, or graduate credit (3) (6% / 0%)
- ○ I was required to attend (4) (2% / 9%)
- ○ I was asked to attend (5)) (6% / 13%)
- ○ Other, please describe: (88) _____ (2% / 4%)

	n	Chi Square statistic	df	p value
Initial questionnaire	133	6.05	5	0.22
Non-response questionnaire	23			

PDGQ4   Which type(s) of MWEE professional development did you participate in or receive? (please select yes or no for each type)

	No (0)	Yes (1)
One day workshops (usually less than 8 hours) (1)	○	○

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	50%	50%	0.05	1	0.82
Non-response questionnaire	23	48%	52%			

Teacher institute (usually on consecutive days that cumulatively consist of 40 hours of more) (2)	○	○

	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	133	34%	66%	0.24	1	0.62
Non-response questionnaire	23	39%	61%			

		○			○		
Multi-day workshops (events that last at least 6 hours, but are less than 40 hours, e.g., a three-day workshop on a specific topic or a series of five Saturday sessions) (3)							
	n	% yes	% no	Chi Square statistic	df	p value	
Initial questionnaire	133	47%	53%	0.54	1	0.46	
Non-response questionnaire	23	39%	61%				

		○			○		
A college-level course (4)							
	n	% yes	% no	Chi Square statistic	df	p value	
Initial questionnaire	133	14%	86%	0.03	1	0.59	
Non-response questionnaire	23	13%	87%				

		○			○		
Professional development provider training (training for individuals who provide teacher professional development) (5)							
	n	% yes	% no	Chi Square statistic	df	p value	
Initial questionnaire	133	21%	79%	0.16	1	0.79	
Non-response questionnaire	23	17%	83%				

		○			○		
Individual teacher coaching and support (e.g., curriculum planning, shared teaching, demonstrations and/or other forms of in-school or in-field support) (6)							
	n	% yes	% no	Chi Square statistic	df	p value	
Initial questionnaire	133	32%	68%	1.03	1	0.46	
Non-response	23	78%	22%				

questionnaire						
On-line professional development support (e.g., courses, webinars, discussion forums) (7)		❍		❍		
	n	% yes	% no	Chi Square statistic	df	p value
Initial questionnaire	97	10%	90%	0.05	1	1.00
Non-response questionnaire	23	9%	91%			

PDGQ23 About how many hours of MWEE professional development and/or support did you receive over the past 12 months?
❍ 1-2 hours (1)
❍ 3-5 hours (2)
❍ 6-10 hours (3)
❍ 11-20 hours (4)
❍ 21-40 hours (5)
❍ 41-60 hours (6)
❍ 61-80 hours (7)
❍ More than 80 hours (8)

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	133	4.34	1.54	-0.78	0.44
Non-response questionnaire	22	4.61	1.27		

PDQ37   Overall, what grade would you give your MWEE professional development experience? (slide the scale between F and A+)

○ 1 (1)
○ 2 (2)
○ 3 (3)
○ 4 (4)
○ 5 (5)
○ 6 (6)
○ 7 (7)
○ 8 (8)
○ 9 (9)
○ 10 (10)
○ 11 (11)
○ 12 (12)
○ 13 (13)

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	90	11.7	1.52	0.77	0.45
Non-response questionnaire	10	11.3	1.95		

PDGQ84 For each statement, select one response for BEFORE, one response for AFTER, and one response for FUTURE. (scroll to the right)

	BEFORE the MWEE professional development, how confident were you in your ability to:							AFTER the MWEE professional development, how confident are you in your ability to:							In the FUTURE, I intend to …						
	Not at all confident 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely confident 7 (7)	Not at all confident 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely confident 7 (7)	Strongly disagree 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Strongly agree 7 (7)
Teach my students about local watersheds (1)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Incorporate MWEEs into my curriculum (2)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

PDGQ84_1_1 BEFORE the MWEE professional development, how confident were you in your ability to: Teach my students about local watersheds

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	127	3.28	1.90	-1.26	0.21
Non-response questionnaire	23	3.83	2.10		

PDGQ84_2_1 BEFORE the MWEE professional development, how confident were you in your ability to: Incorporate MWEEs into my curriculum

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	127	2.59	1.70	-2.79	0.01
Non-response questionnaire	23	3.70	2.00		

PDGQ84_1_2 AFTER the MWEE professional development, how confident were you in your ability to: Teach my students about local watersheds

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	124	6.04	1.05	-0.41	0.68
Non-response questionnaire	22	6.14	0.83		

PDGQ84_2_2 AFTER the MWEE professional development, how confident were you in your ability to: Incorporate MWEEs into my curriculum

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	123	5.70	1.27	-1.07	0.29
Non-response questionnaire	22	6	0.87		

PDGQ84_1_3 In the FUTURE, I intend to… Teach my students about local watersheds

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	75	6.28	1.13	-0.15	0.88
Non-response questionnaire	22	6.32	0.89		

PDGQ84_2_3 In the FUTURE, I intend to… Incorporate MWEEs into my curriculum

	n	Mean	Standard deviation	t-test statistic	p value
Initial questionnaire	74	5.91	1.20	-1.16	0.25
Non-response questionnaire	22	6.23	0.92		