

Young People's Project Math Literacy Worker Questionnaire Report

Introduction

During Spring 2002, Math Literacy Workers (MLW) with the Young People's Project (YPP) participated in a survey that had two main purposes:

1. To contribute to the measurement of outcomes of YPP's work. In other words, getting a measure of what YPP is achieving, using evidence and perspectives from the key personnel involved in delivering their services: the MLWs.
2. To identify ways to improve YPP's training and support for MLWs and improve YPP's services generally to young people.

Given these purposes, the survey includes measures of:

1. MLW retention over time.
2. Whether training and support for MLWs is resulting in active deployment of MLWs, and in what ways MLWs believe their work is producing beneficial results.
3. Outcomes in terms of math skills development by MLWs (continued registration and success in math courses, and whether they believe YPP is helping them improve their math).
4. Outcomes in terms of facilitation and organizing skills development by MLWs as well as measures of how YPP membership has affected their orientation to community service.

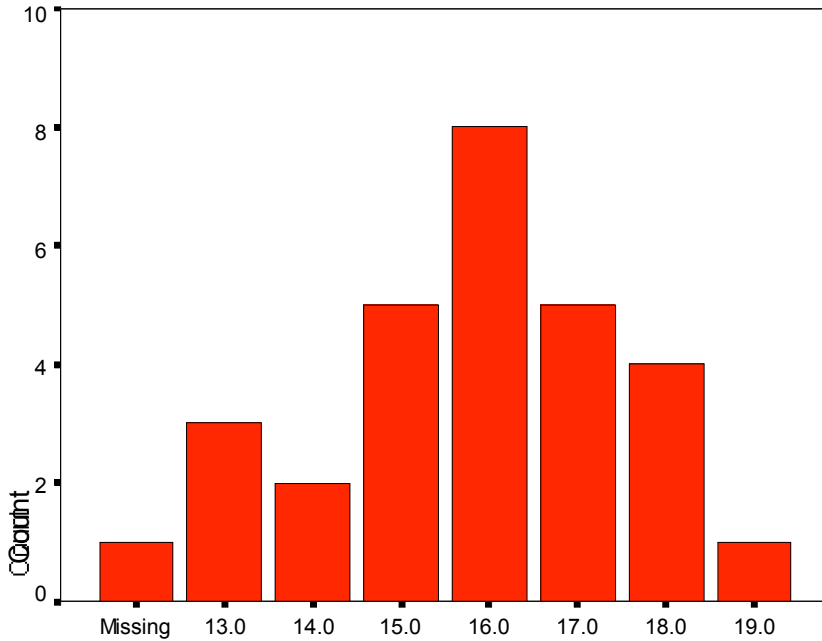
The survey instrument was a self-completion written questionnaire, and the results of the survey have been provided below, alongside the questions. In total, during Spring 2002, 29 MLWs completed the questionnaire. The researcher completing this report does not know what proportion of MLWs this represents, and how many other MLWs were asked to complete a questionnaire, but did not do so. The results below should therefore be treated with caution.

The main limitation of using a questionnaire like this to measure outcomes of YPP work with MLWs, was that we were measuring perspectives on the work, rather than testing and scoring actual skills. Responses may be affected by MLW loyalty to YPP, and fears about the effect of negative responses on future YPP funding (and therefore on MLW's own remuneration).

In the long-term, use of questionnaires needs to be supplemented by independent observation of MLWs at work, and objective measures of the impact of that work upon the intended beneficiaries. Special funding for this may need to be secured.

1. **Name** (optional): 8 of the 29 MLWs completed the questionnaire anonymously.

2. **Age in years:**



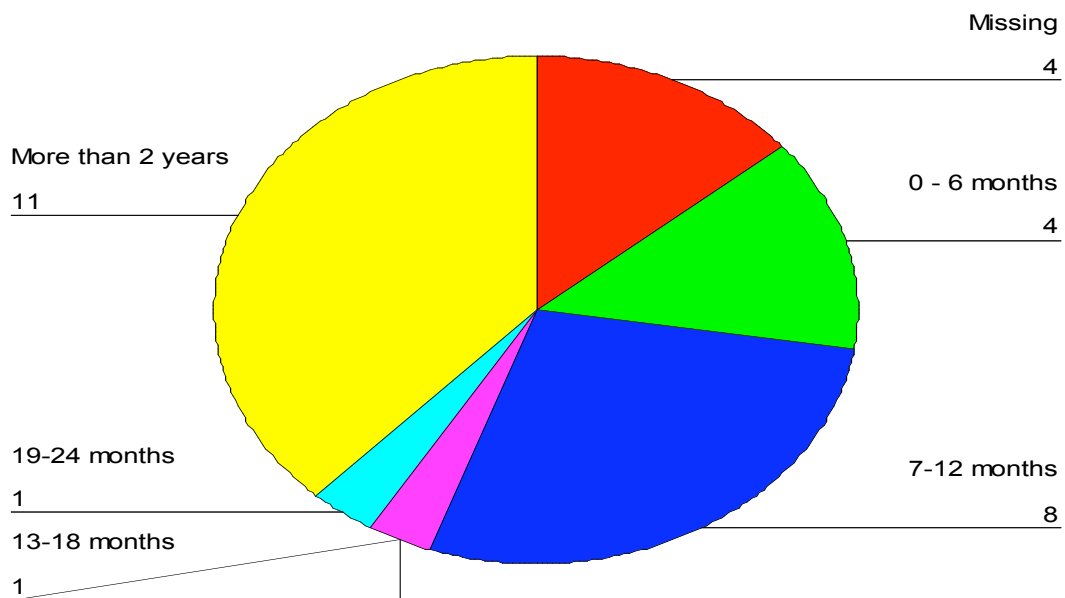
AGE

3. **School/college/university attended:**

School/College	Number of respondents
Lanier High School	9
CRLS	4
Minuteman High	3
King School	2
Young Achiever	2
Avon High	1
Callaway	1
Fisher College	1
Graham and Park	1
Hinds	1
Provine	1
Somerville High	1
Not stated	2

Your work with YPP

4. How long ago did you start your training as a Math Literacy Worker?



For a large proportion of these current MLWs, their involvement has been long term. The program is succeeding in engaging their interest and commitment over a significant length of time.

5. As a Math Literacy Worker, which of the following activities have you done over the last 12 months?

(Although only 29 MLWs completed questionnaires, the responses here are provided as percentages to facilitate comprehension)

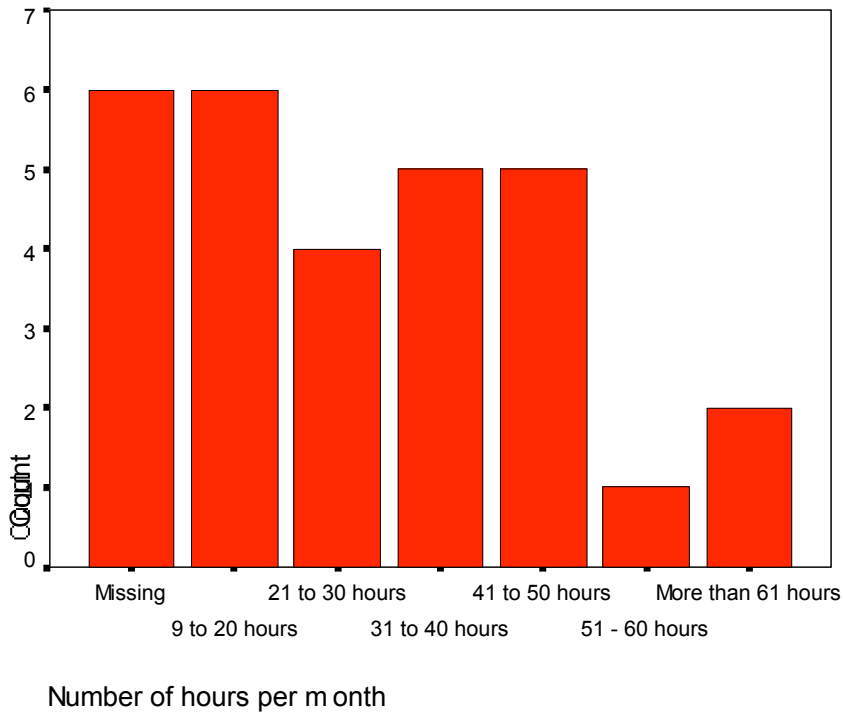
<u>Activity</u>	<u>Percentage of Respondents</u>
Attended Math Literacy Worker summer <u>training</u>	69%
Attended follow-up <u>training</u> sessions, after the summer	55%
Attended <u>outreach events</u> organized by YPP, such as family math nights or workshops in schools.	59%
Helped organize and lead <u>outreach events</u> .	45%
Given tutorial help to younger students at <u>after-school sessions</u> .	62%
Helped organize and lead <u>after-school sessions</u> .	55%
Joined in discussions and planning about YPP work.	76%
Helped organize and lead <u>summer math institute</u> workshops for younger students.	38%
Served on a YPP committee.	28%
Helped with YPP administrative tasks.	17%

Other activities: Only three students mentioned other activities, and described them as: Desktop publishing; Out of town workshop: Work with 5th grader in the feeder pattern.

In general, the older students were more involved in organizing and leading events and planning YPP work than the younger students. The 13 and 14 year olds were rarely involved in program leadership, and tended to be newer participants in YPP.

Also, as is to be expected, the students who had been involved in YPP for more than six months had participated in more ways in its work and in running YPP than those who were new to YPP.

6. On average, roughly how many hours do you work as a MLW each month?



Given the range of ways in which most MLWs participate in YPPs work and the number of hours they contribute each month, it is evident that the investment in MLW training is resulting in active deployment of them as YPP staff.

Your views about YPP

7. What have you found most satisfying (if anything) about being a MLW?

(See full listing of responses under Appendix A).

The most frequently cited source of satisfaction for MLWs is being able to help people. Examples included: *"What I have found most satisfying is that the children want help with their math."* And *"You get experience of helping others"*. This sense of satisfaction is often linked with their feeling that what they are offering is actually benefiting the younger students, for example: *"People are learning what they came here to learn."* And *"Helping the kids and knowing that they understood everything and had fun."*

Another very frequently mentioned source of satisfaction is "meeting new people", and several also mentioned that it was fun to be involved in YPP. Several felt satisfaction at improving their math skills or leadership skills, for example: *"You learn how to be a leader and how to talk to people!!"*.

8. Do you think that your own work as a MLW has assisted other students or young people?

Yes 23 No 2 (Missing: 4)

(Note: one of the MLWs saying their work had not assisted others had been involved for less than 6 months. The other MLW saying "no" did not state how long s/he had been involved).

The MLWs clearly feel that their work is yielding beneficial results.

If yes, please describe the activities that have been most effective in helping other students:

(See full listing of responses in Appendix B).

Most MLWs mentioned particular games or activities that they felt had been effective, such as Flagway, T-Point, hula hoop or prime number games. They feel these games play a key role in helping the students understand or remember math concepts. Others mentioned the occasions on which these games were offered e.g. Family math nights, outreach events or homework time. A couple of students felt that as MLWs, they offered encouragement or a good role model.

Overall, the students' responses indicate high levels of confidence about the YPP approach to teaching math through games and fun activity – this is the key way in which they feel they are being effective.

9. What do you dislike (if anything) about being a MLW?

(See full listing of responses in Appendix C).

8 MLWs did not complete this question, and 6 others said "nothing". Indeed, one went so far as to say "*Nothing, and when I get in trouble it's my fault and I know I will never have another job like YPP*".

Despite this enthusiasm from many MLWs, there is also a strong message coming through about the need for improved organization and management, including improvements in attitude among some MLWs. 8 MLWs highlighted frustration with management/organization or with attitudes. For example: "*The management team. They don't know how to be managers.*" And "*We are so disorganized!*". One MLW complained about "*The miscommunication and the nasty attitudes.*" While another complained about "*Some of the other workers' attitudes that we have to deal with.*" These concerns could be addressed through improved management and communication systems, a clear consensus about acceptable attitudes/behavior, and an established method (with training) to deal with personal conflicts.

The other emergent theme here is that many MLWs would like more pay. Given the democratic structure that YPP aims for, this concern might be addressed through greater dialogue about the reasons for low pay, and giving more YPP members the chance to assist in securing better funding.

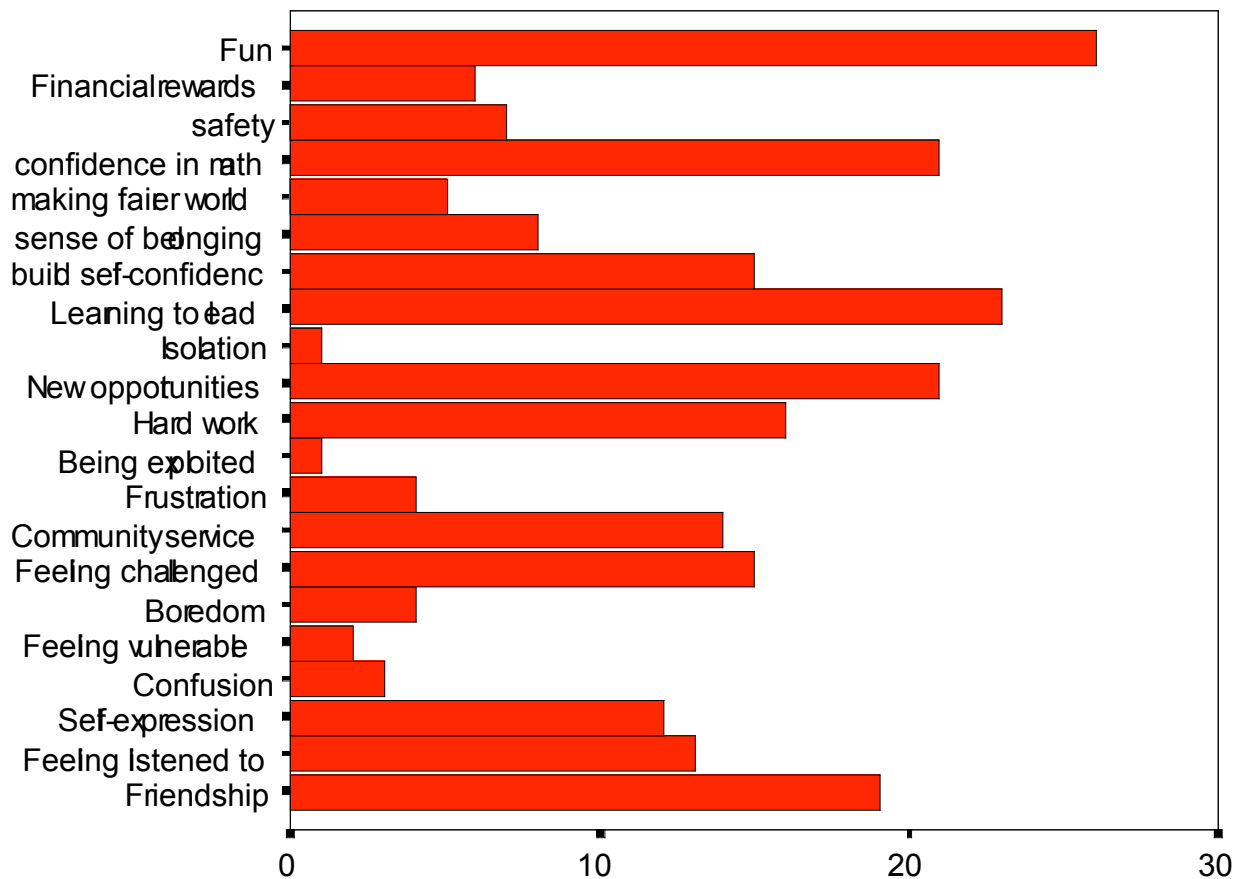
10. Do you feel you have the chance to contribute your ideas to YPP's development? (please circle one answer)

Yes, very much 8
 Yes, a little 18
 No 0

(Missing: 3)

All of these respondents feel they can contribute their ideas to the development of the organization.

11. Circle the words and phrases below that you associate with your experience of working with YPP?



N < 2

The words most frequently associated with their work with YPP were: "Fun"; "Learning to lead"; "confidence in math skills"; "new opportunities"; and "friendship". MLWs generally do not associate their experience with YPP with isolation, exploitation, vulnerability, boredom or confusion. Generally, the choice of words made by these MLWs shows a very high level of positive association with the organization. Of course, the survey only included those young people who had continued to be involved with the organization, so some level of positive response was to be expected.

It is interesting that only a few MLWs associated their experience with YPP with "making a fairer world".

Likewise, although not very many MLWs associated their experience with YPP with "financial rewards", only one student felt exploited.

12. Please list the three phrases or words (from above) that you most strongly associate with your experience of working with YPP.

The two phrases most frequently mentioned as having a strong association with their experience of working with YPP were:

Fun (13 MLWs), and **Learning to lead** (13).

Also commonly included were:

Friendship (9), **Confidence in math skills** (9), **New opportunities** (6), **Building self-confidence** (5).

This seems to provide evidence that, at least from the MLWs point of view, the YPP is succeeding in its aim of creating a group of young people with confidence in its leadership ability and in its math skills. Their perception of YPP as an opportunity for fun and friendship also gives encouragement to the sense of YPP as a sustainable organization.

Developing your math skills

13. Are you taking any math courses (at school or college) this year?

Yes: 23 No: 4 (missing: 2)

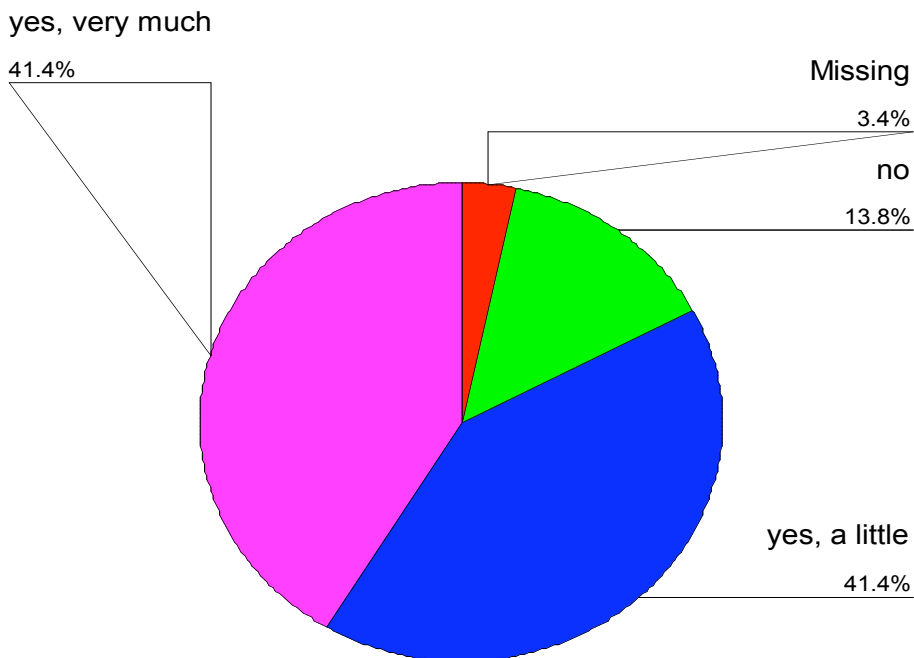
If yes, what is the course title?
See full list, Appendix D.

14. Did you take any math tests or exams in the past 12 months?

Yes: 21 No: 6 (missing: 2)

If yes, please list the names of the courses and tell us how you did:
19 students listed math tests or exams they had taken in the last year. Several had taken a test on the same subject two or three times during the year. Clearly, most of these MLWs are actively studying math, and many are working to achieve high scores in higher level courses at school.
Of the 12 Algebra II tests taken: 7 of the scores were at 90 or above; 4 were at 80 - 89; and 1 was at 75.
Of the 15 other tests that seemed to be against a 100 point objective: 5 achieved a score of 100; 2 scored 90 - 99; 3 scored 80 - 89; 3 scored 70 - 79; and 2 scored 60 or above.

15. Do you feel that participating in YPP as a MLW has helped you improve your math skills?



If yes, **please explain why you think being a MLW has improved your math:**

See full listing, Appendix E.

8 MLWs did not answer this question.

Most respondents felt that by being part of YPP they came to understand math concepts they had not understood before, for example: *"A lot of things I was supposed to have learned I didn't but now I understand"*.

A few felt it reminded them of math topics they had studied but might otherwise have forgotten, for example: *"By reminding me how to do some things that I forgot at Middle School"*.

Two mentioned that it increased their confidence in dealing with math, and two MLWs also emphasized that their math improved simply because they did so much of it, for example: *"Because that's all we really do. I am around it 24/7"*.

Three respondents emphasized the better grades they are now achieving.

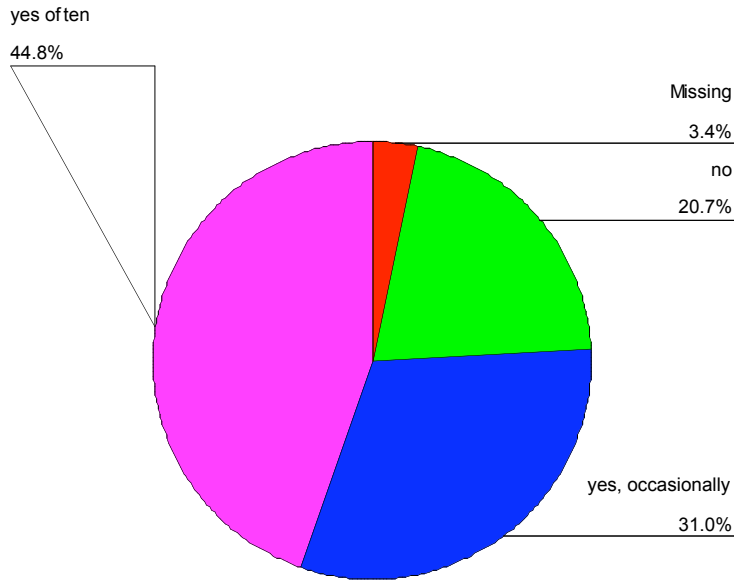
16. Do you intend to continue studying math during the next 12 months?

Yes: 26

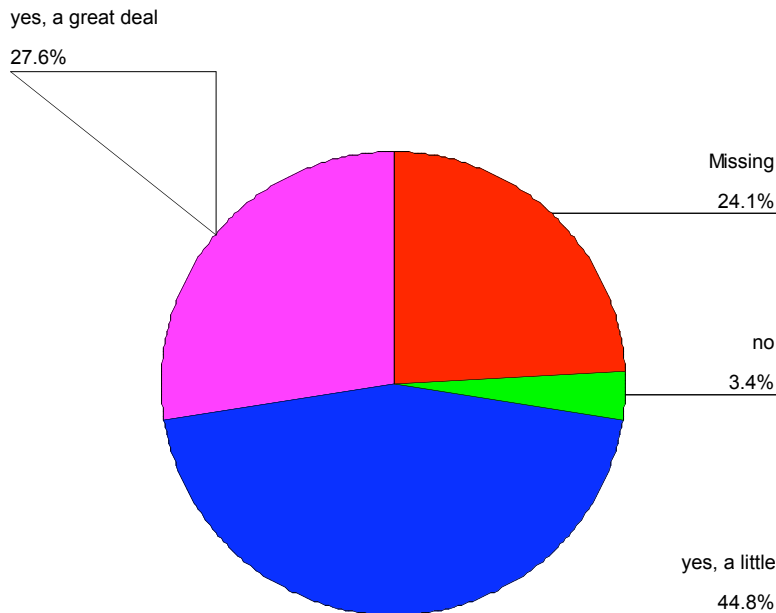
No: 2

Judging by the MLWs responses to these questions, it would seem that being a MLW tends to motivate and support them in improving their math skills and being confident to share their knowledge with others. High achievement in math seems to be an essential goal for YPP workers.

19. Have you led or presented math workshops or other workshops over the last year?



If yes, were you given advice and support from other YPP staff and members to help you improve your teaching and facilitation skills?



Around three-quarters of respondents were involved to some extent in leading math workshops, and felt that they received advice and support to improve their teaching skills.

20. Apart from any math tutoring and math workshops you may have done for YPP, have you been involved in any other types of community service or community organizing over the last year?

Yes: 1

No: 26

This seems to be a surprisingly high number of respondents who have no involvement in community service apart from working with YPP.

If yes, please describe:

The one person who had been involved in community service did so through their church youth group.

21. Has your experience with YPP made you more or less interested in other types of community service or social change?

9 MLWs did not answer this question.

More interested: 20 Less interested: 0

Please say why:

See full listing of responses, Appendix G

Most frequently, respondents mentioned enthusiasm for helping people, sometimes saying that it gave them a good feeling. Some linked their willingness to get involved in other community work with their experiences at YPP – for example, that they could transfer what they had learned into other contexts, or that YPP had made them aware that they could make a difference. 5 respondents emphasized commitment to serving the community, for example: *"I see now that community is the backbone to everything."*

22. Do you have any other comments about YPP, or about your experience as a MLW?

See full listing of responses, Appendix H

14 respondents made other comments. All but one of these expressed further enthusiasm about their experience working with YPP. Many said how much they had enjoyed being in YPP. They saw it as a good opportunity. One respondent stressed that *"YPP is a great project. We just need to learn how to work together more as a team and not all as individuals"*, while one other MLW asked for higher pay.

Appendix A

What have you found most satisfying about being a MLW?

- What I have found most satisfying is that the children want help with their math.
- The children actually ..(can't read it)...and did the math.
- That people are learning what they came here to learn
- I really can't say much about MLW because I haven't been around that much
- Being able to work with younger kids to help them and to meet new people
- I get a chance to be involved and meet new people
- Fun doing work with children and relaxing while not working
- Being able to help people and teach in a fun way
- Meeting new friends and improving math skills
- It has advanced my knowledge of teaching children for my future profession dealing with studying early childhood education
- That you get to see math in lots of different ways instead of one
- That I get to meet new people and develop new skills
- Helping the kids and knowing that they understood everything and had fun.
- That young people enjoy the work and games that YPP has
- Yes, I did find it satisfying being a MLW
- That you learn how to be a leader and how to talk to people!!
- Meeting new people and teaching them new things about math
- You can meet a lot of different people
- Helping students, going on trips, and having fun
- The only thing really satisfying about being a MLW is being able to help children
- The fact that I'm helping a person learn math in new ways
- You get experience of others
- You get experience of helping others
- The outreach with the MLW
- Some of the work is fun and you can chill with your friends

Appendix B

Describe the activities that have been most effective in helping other students

- Help students with their algebra to help them pass the algebra I test
- Because I help them understand more about what's going on
- Because we played hula hoop and other games which helped them to remember things they needed in math
- Prime numbers
- T-point relay because it makes a competitive
- Helping to explain a problem to the children if they need help
- Helping them memorize their primes and helping them one on one with inputs and outputs
- When I am helping students learn their prime numbers etc.
- Teaching them
- It has given kids encouragement and also taught them basic math skills
- Family Math Night, helping the kids with their homework
- T-point and Flagway
- People tell me how much of a role model I am to them
- The flagway game because it covers all the basics and it leads to other games
- The different work we do at Lanier High school
- When I do the game rap.
- Flagway has been most effective in helping the students. It has helped them understand prime numbers
- When ever we do the Hula Hoop game we help the children with averages, and they'll always remember.
- Raps have helped assist students
- The outreach the program does
- Math work, dividing

Appendix C

What do you dislike about being a MLW?

- Some days are boring
- All members of YPP don't come anymore. It is kinda losing..(can't read)..Since it broke in different sections a lot of people don't want to come anymore or help do workshops.
- Nothing
- Nothing
- Nothing
- Don't get paid as much as a real job would pay you.
- Attitudes
- The miscommunication and the nasty attitudes
- Pay checks not sent on time and not enough pay
- Sometimes going to the workshops because they can be boring
- I like everything
- Nothing
- We are so disorganized!!
- The meetings
- The management team. They don't know how to be managers
- I dislike some of the people I work with and in some cases we are unorganized.
- Some of the other workers attitudes that we have to deal with.
- The pay that I get and the Saturday mandatory sessions
- Not enough pay
- Nothing, when I get in trouble it's my fault and I know I will never have another job like YPP
- Writing evaluations and PAY RATE!

Appendix D

Math Courses being taken this year

Algebra II – 8 students

IMP2 – 2 students

Geometry – 6 students

Advanced Algebra and Trigonometry – 2 students

Focus on Algebra/Geometry 1 – 1 student

Math topics – 1 student

MCAS Prep – 1 student

Trigonometry – 1 student

Focus 2 – 1 student

Appendix E

Why do you think being a MLW has improved your math?

- Because a lot of things I was supposed to have learned I didn't but now I understand.
- Before I was a MLW I sometimes didn't understand what was going on, but now I understand.
- By reminding me how to do some things that I forgot at Middle School
- They made math easier to understand
- I have learned more about the way of being myself as a math facilitator
- Because now I do not have any problem
- I am able to count in my head and get an answer really fast.
- It basically brought back past math skills that I used to do back in elementary and during early High School (9th & 10th)
- It helped me better understand the mobius function and other involved math from the workshops
- Well I kind of improved my math dealing with calculators
- Because I learn to do more things and sometimes I see them in my math class
- Because since I came to YPP I have been getting better grades in math than before
- I am now confident about doing math
- It has given me more confidence to try math problems
- Because that's all we really do. I am around it 24/7.
- I always liked math, so it helps me a little with things I wasn't sure about
- Because when I was taking math my grades went from Cs and Ds to As and Bs.
- I never liked math but when I got in YPP I started to like math and pay more attention to it.
- Before YPP I used to fail math. Now I pass math.
- Because we work with math
- YPP is like a review. It helps keep my math skills sharp.

Appendix F

Please describe the skills (apart from math skills) that you have developed through YPP

- Build some self-confidence and self-expression
- Like being able to talk in front of big crowds and teach games by myself
- I have learned by being around math 24 hours a day really
- By building self-confidence and by meeting new people more easily
- How to better understand graphing calculators
- Communication skills
- Have advanced skills dealing with the graphing calculator
- I am better at speaking in front of people and my self-expression
- Confidence, being able to speak up and not be scared
- I have learned to express my feelings more.
- Listening skills, social skills, patience
- The main skill is speaking and presenting
- I learn to be a leader and take control of any class
- Reading History (as far as black history).
- My ability to speak in front of a group of people has grown. I speak with confidence in myself now.
- I learned people skills, meaning being able to deal with people better
- Black history
- Writing skills
- Leadership
- Desktop publishing

Appendix G

Why has your experience at YPP made you more interested in community service or social change?

- Because I like helping people
- Because I have started to like people and helping them
- Because I like helping people and you meet lots of new people in social change.
- They help how to talk to people I don't know.
- Because I can take the knowledge I learned from YPP and transfer it for the other community service
- Because now I want to get involved a lot more and I want to try more. YPP made me feel I can do more.
- Because I like getting involved now that I have experience with YPP
- Because when you help some it feels good
- It's made me want to go on more in studying early childhood education at college.
- I am interested in improving the community
- Because I realized I could make a difference.
- Because it is good to help in the community and I love to help people
- I like helping other people
- Because I like helping others a lot
- Because I am willing to do anything for any community
- Because of the good feeling you get when you're with children your age and under
- Because I like when I get the opportunity to help and meet new people
- Because I see now that the community is the backbone to everything: people, plus where workshops are held.
- I'm willing to improve the community
- Don't know

Appendix H

Do you have any other comments about YPP, or about your experience as a MLW?

- I think YPP is a great program for us teens
- YPP ...(can't read).
- I love it.
- I have had a lot of fun this year and it has been a good experience for me and I have enjoyed myself.
- I am glad that I joined YPP because if I did not I would have been missing out on a good opportunity.
- I have enjoyed being in YPP as a MLW and would love to stay as long as possible
- YPP is great!!
- It's been wonderful working with the 9th grader at Lanier for the past year!
- YPP is a great project. We just need to learn how to work together more as a team and not all as individuals.
- I think as MLW that's been in YPP since 5th grade, I and others should get a higher pay.
- I love YPP!