Preliminary Results of the GMU-Amazon Externship Experience

Prepared by the George Mason University Team
Dr. Amy Hutchison, Dr. Erdogan Kaya, and Dr. Erin Peters-Burton
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Highlights from the Survey Results

(see page 2 for a complete table)

- A higher percentage of teachers reported that they plan to teach computer science after participating in the GMU/Amazon Experience.
- A higher percentage of teachers reported feeling secure about attempting to teach computer science after participating in the GMU/Amazon Experience.
- A higher percentage of teachers believe they can be successful in teaching computer science after participating in the GMU/Amazon Experience.
- A higher percentage of teachers reported having a lot of self-confidence for teaching computer science after participating in the GMU/Amazon Experience.
- A higher percentage of teachers reported that they study computer science because they know how useful it is after participating in the GMU/Amazon Experience.

Table 1

Comparison of Responses to Survey Items Before and After the GMU/Amazon Experience

	Before the Class and Externship (n= 20)			**After the Class and Externship (n=15)**		
	disagree/ strongly disagree (%)	agree/ strongly agree (%)	Don't know (%)	disagree/ strongly disagree (%)	agree/ strongly agree (%)	Don't know (%)
I plan to teach computer science.	0%	86.36%	13.64%	0%	93.33%	6.67%
Generally, I have felt secure about attempting to teach computer science problems.	31.82%	68.18%	0%	20.00%	80.00%	0%
I am sure I could do advanced work in teaching computer science.	13.64%	86.36%	0%	20.00%	80.00%	0%
I can be successful in teaching computer science.	0%	95.24%	4.76%	0%	100%	0%
I have a lot of self-confidence when it comes to teaching computer science.	23.81%	71.43%	4.76%5	6.67%	93.33%	0%
I'm no good at teaching computer science.	90.47%	0%	9.53	93.33%	0%	6.67%
For some reason even though I work hard at it, teaching computer science seems unusually hard for me.	85.71%	4.76%	9.52%	80%	0%	20%
I'd be happy to get recognized for teaching computer science.	0%	95.24%	4.76%	0%	100%	0%
I'll need to know how to teach computer science for my future work.	15.00%	80.00%	5.00%	13.33%	86.68%	0%
I study teaching computer science because I know how useful it is.	5.00%	90.00%	5.00%	0%	100%	0%
Knowing how to teach computer science will help me earn a living.	15.00%	85.00%	0.00%	6.67%	93.33%	0%
I'll need a firm mastery of teaching computer science for my future work.	10.00%	80.00%	10.00%	13.33%	80.00%	6.67%
I am challenged by computer science problems I can't understand immediately.	10.00%	85.00%	5.00%	13.34%	86.67%	0%

Has your interest in computer science changed because of the Amazon/Mason Externship Experience?

Amazon and George Mason have added many more dimensions to my understanding of computer science education, the application of computer science, and the power of collaborating with others in this domain. My interest has become deeper and my appetite for computer science has increased dramatically. I feel more confident in my interest in computer science and I am more motivated to dive deeper into computer science related fields. I now feel more confident in learning higher levels of computer science and also teaching more challenging CS courses. For instance, this year I'm teaching 9th grade Exploring Computer Science, and I'm more excited and confident in my abilities after the Amazon and George Mason experience. The course with Dr. Kaya gave me a lot of insight about how to teach computer science and how to use resources and where to find some of the best resources. It was also incredibly beneficial to complete a group project that helped me learn more about computer science being done by students who have disabilities or are visually impaired. I was enlightened to learn about Code Jumper, a device that makes coding much easier for students who are blind or visually impaired. Furthermore, everything I learned about equity and the way it relates to computer science and teaching CS will be important for me when I teach CS in underserved communities.

Yes because I was exposed to the different aspects of the topic and loved meeting people in the meetings. Also, equity is a major part of why computer science is important to me

The Amazon/Mason Experience has help me with ideas with this upcoming year as this will be my first year teaching computer science.

Yes. My interest has increased in computer science to be able to give more opportunities to our students in the technology fields. I learned that computer science is broader than I originally thought.

Yes, I have a much better understanding of the full range of what the field of computer science entails (Internet of Things, AI, 3D printing, etc), what a career in computer science can look like and involve, as well as the different routes that people have taken and can take to get there.

My interest has grown since starting this problem. Amazon had exposed me to more opportunities in computer science.

Yes. It has expanded to more than just coding.

Yes. I am more interested in Computer Science. Not a lot; but more than before the program.

Yes in some of the topics that had not been part of my class

No. I was already a CS teacher. I have just learned new things.

I feel like I have more resources and a better understanding of the cloud and AI

My interest in computer science has changed because this experience has lifted the curtain for me. I learned about various careers and concepts surround computer science. I also enjoyed the hands on experiences. I am much more comfortable with the idea of teaching computer science.

I am interested in teaching Alexa skills that then I can turn around and have my students do the same.

I don't think my interest in computer science itself has changed, but I think my interest in CS education has increased because I've learned about cool things to do in class.

No if anything it's increased it

Figure 1. ***Teachers' Responses About Interest in Computer Science After Participating in the GMU/Amazon Externship Experience***

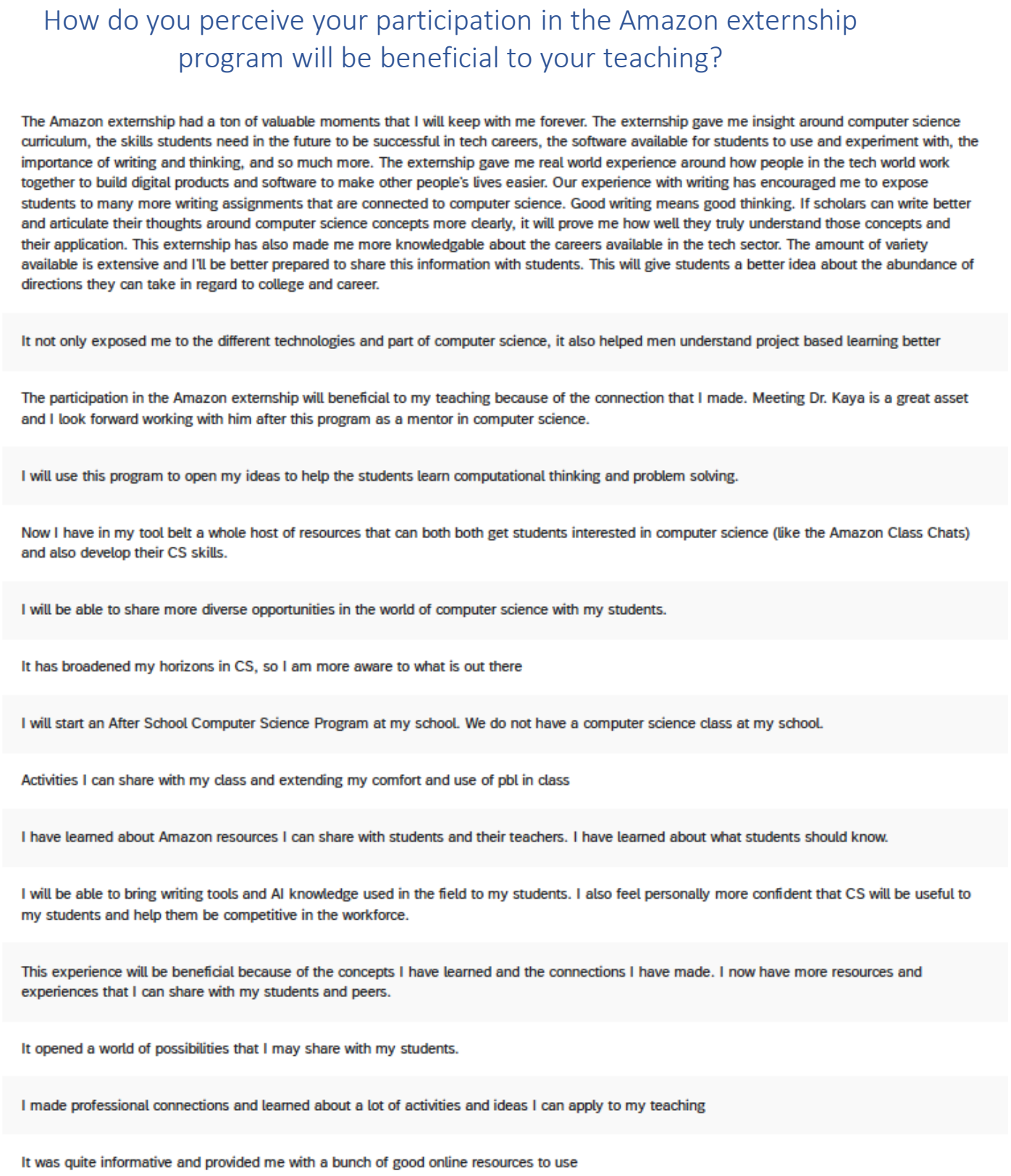
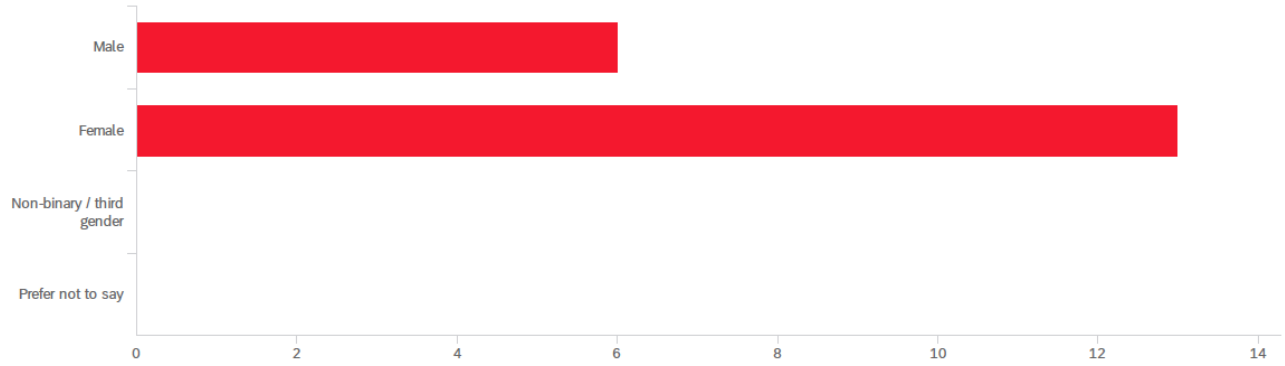


Figure 2. ***Teachers' Responses About Benefits of the Program After Participating in the GMU/Amazon Externship Experience***

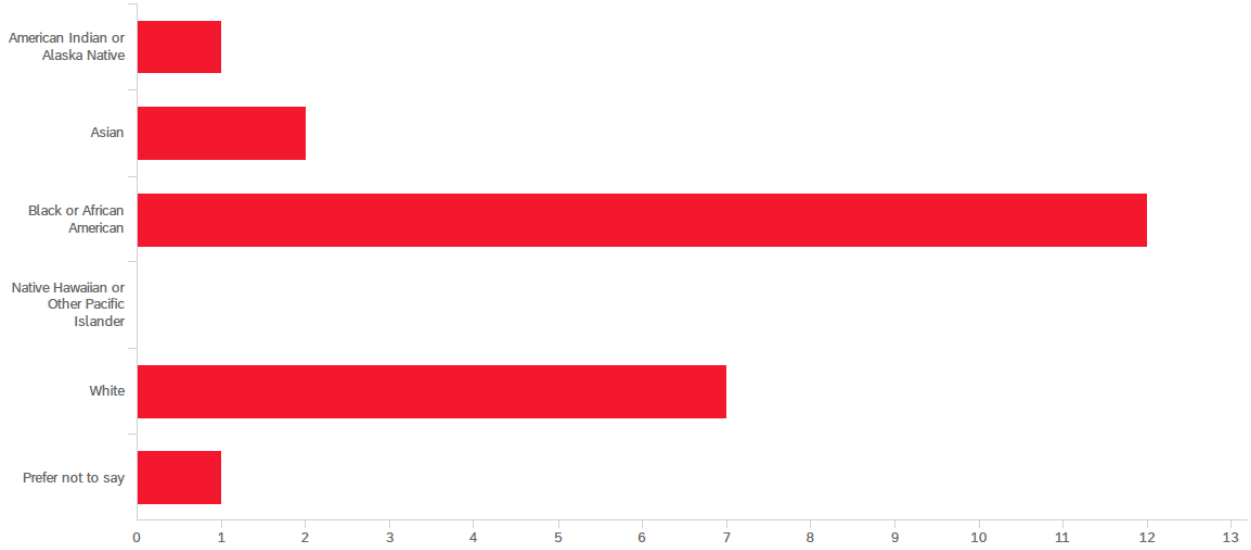
Demographic Information of Participants

Gender



Are you currently a computer science teacher?

How would you describe yourself?



What grades do you currently teach?