

Non-Teaching Instructor Report

Prepared for

Software Carpentry Foundation and
Data Carpentry Foundation

by

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Executive Summary

The purpose of this report is to consider cases of instructors who have completed the instructor training but who have **not** gone on to teach a Software or Data Carpentry course (abbreviated SWC/DC). The researcher interviewed seven people who have completed the SWC/DC instructor training but have not taught a course. While this is a very small sample, the depth of the responses can give directions for future research, suggestions for organizational improvement and ideas for how best to work with these stakeholders.

Why they didn't teach

- Time was a factor. Some commented that they could not get time away from work or they had other commitments that did not allow them to teach.
- Not all organizations are conducive to holding a SWC/DC workshop internally. One respondent was in a secure building where guests would need a security clearance to attend. One respondent said his department is ambivalent about him teaching SWC classes. Others said their workplaces needed only one or two of the modules and it didn't make sense to offer the whole workshop.
- Some did not wish to travel very far or could not travel because of family or other commitments.
- There were a number of logistical questions about pull requests, the challenge (or lack of interest in) setting up a training on their own. Respondents either wanted more resources to get a training going and make the case to their leadership or they didn't want to have to do the work to set up the training themselves.

Communicating with SWC/DC

- Respondents commented that the information deluge from the SWC listserv was far too much to keep up with. One respondent said that the amount of information prevented him from engaging with the organization.

Teachers Training

- Respondents had positive things to say about the teacher training saying they were glad they took it. Several commented on the book used in the training as well as the interactive activities and pedagogical techniques described.
- Skills from the teacher training were useful in other settings, such as classroom teaching and doing other workshops or seminars. Some commented that although they weren't able to teach courses for SWC/DC, they used the materials and skills in other ways.
- One suggestion for improvement is to create more videos for instructors to see how the workshop has been taught before.

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Materials

- Respondents spoke favorably about the online teaching materials saying they were useful in creating seminars, sharing with Ph.D. students and giving to people who wanted to learn the material.
- They had an interest in having more detailed materials, additional examples and materials targeted for their specific area.

Other

- Respondents were generally positive about the organization saying that even though they might not teach, they often directed other people to SWC/DC as a resource and as a place for good training and materials. Several respondents advocated within their organization for workshops.
- SWC does have competition from other groups that teach R or Python workshops at a cost. One respondent said these competing workshops had been offered by their organization but were not beneficial or tailored for what they needed. Another discussed the attraction of a paid workshop versus doing all of the work to create a SWC training on her own.

The report gives several suggestions for SWC/DC leadership including:

- Consider creating a unit for the teacher training on cultural sensitivity.
- Create better resources or a packet of information for instructors as they complete their teacher training so that they know the basics on how to do pull requests, how to sign up for a workshop and resources for convincing their leadership to do a SWC/DC workshop.
- Create and share videos of teachers doing the training.
- Continue to update and expand teaching materials to include other groups and to create more examples.

Methods

The purpose of this report is to consider cases of instructors who have completed the instructor training but who have not gone on to teach a Software or Data Carpentry course. This is a pilot study designed to solicit detailed answers in a confidential manner. Because the sample is small, we cannot generalize from these responses. However they can be used to frame future research and to look at how to best engage with this group. We are interested in what prevents instructors from continuing on to teach a course after they have successfully completed their training.

The researcher conducted seven short informal interviews around the six questions listed below. Follow up prompts were used to probe deeper with respondent's answers. The tone of the conversation was informal and questions were not always answered in the same order. The interviewer took notes and responses listed below are paraphrased from the conversations. Of the respondents two were women, five were men. Three respondents were from the United States, four respondents were in other countries. Conversations ranged from 15 minutes to around 30 minutes, with most conversations lasting around 20 minutes.

We asked six questions:

- How did you get involved in Software Carpentry?
- Why did you take the teacher's training?
- What did you get out of it (positive and negative)
- Is there anything you wish was taught that wasn't?
- What would help you become comfortable teaching a SWC Course?
- Open question about any other feedback or comments that the respondent wanted to address.

How did you get involved? Why did you take the teacher's training?

- He met Greg for some reason and started talking to him. He was looking for volunteer opportunities and was choosing between two organizations. The other organization had “no path in” to volunteering and the mechanics of volunteering never worked out. With SWC, the mechanics were effortless. He quickly signed up for instructor training.
- His organization hosted a SWC and he ended up helping out with instruction. He did the teacher's training afterwards.
- Her organization hosted a SWC instructor training. In the workplace, she is seen as the stats/methods person. Her boss said you should go to the workshop. It was a bit random because she hadn't gone to a SW workshop before.
- She and her work partner did open data events, hack tests and testing workshops where they started participating and starting up the conversation. They got involved in the community. That's what got her to sign up.
- There were two reasons to do the training 1) He wanted to see how others teach. 2) He thought about volunteering at a place locally.
- He's not sure how he started, thinks he saw something on twitter, maybe from Titus. Also another person in his field mentioned something. He looked into it and found that there were sensible lessons and that the organization taught what he was interested in. The idea of learning how to teach it was interesting.
- He was part of an institute and there was a teacher's course. “I thought I'd go.”

What benefits did you gain from the teacher training?

- The teacher's training was a real eye opener for him. He wasn't sure what to expect. He had never given as much thought on how to teach effectively. Most of the exercises emphasized getting feedback and he was impressed by that. He wondered if the teacher's training was dependent on Greg's personality. "There is a level of buy in - it seems like a one man show." The community effort is impressive and he liked the principles of crowd-sourced teaching.
- "I learned how to teach better, it's still easy to slip back into old habits but I've learned to get feedback. It has improved my understanding of how to teach." He learned more on the content of course materials and found that the principles of SWC helpful.
- He found it interesting to see how to put things together to teach newbies. It is more important to get across the principles than to get across the commands. When the use case is different, it's a different way to transfer information. The book was interesting.
- He has done other kinds of instructional training as a professor. This was the single best teaching professional development he has done. There was no "lack" in this workshop. He was coming in with a formidable background, but this training gave him greater depth. He had not had a lot of theory of instruction, so he found that part interesting. He had already done one bootcamp and thought the structure was good.
- She wasn't sure she got a lot out of the teacher training in terms of teaching. She has a lot of teaching experience and a background in acting. "I think it would have been more useful to have seen a SWC workshop in the flesh instead."
- The teaching training had a textbook which he liked. The book taught him more about how learning works and since he questions everything (that's how he is) he wasn't convinced until he tried it. The best part of the course was getting real time feedback from his fellow students. He found out that he is too scripted and that was interesting to see how different people approached the task of teaching. He used some of this in his courses.
- For him in teaching, it takes time to come up with good questions - such as multiple-choice questions. He thought the group exercises were really tangible and worthwhile. Talking on Google hangouts was time consuming. He didn't get much out of teaching philosophy, there wasn't any follow up, but he thought the interactive activities were rewarding. He found it interesting to have Greg talk for an hour with no visuals. He liked the ether pad. It wasn't high tech, it was low tech with no distractions. He learned to keep online materials simple and basic. To not overload with stuff.

What negatives did you find in the teacher training? Is there anything you wish was taught that wasn't?

Logistics

- He wishes there were a formalized access to logistic information for bootcamps. In order for him to do a training, he needs to set up the bootcamp, get websites from repos, figure out the typical flow of the bootcamp materials. None of this was covered in the teacher's training.
- She thinks there would be a good idea to have an email or a package of information that comes to her when she had finished the workshop so that she could know "Now that you're certified, here's what you do now." Answering questions like How do you connect with other people to do a workshop? What exactly do you need to do to set one up? What is the protocol for getting one to happen?

Videos

- He would love to see the flow of teaching the material taught more clearly. He thinks having videos of the lessons would be really helpful to know how to teach it more effectively.
- "It would have been good to either know the content or see a 10-20 minute acting as students to see an example - how we could implement this idea. Videos would really help - watch this video of a module and talk about how it went and how they taught this."

Networking

- At the teachers training workshop, some of the folks seemed situated with instructors at the university, some were from far away, they met and dispersed, there wasn't forethought to network among them.
- He wondered about having refresher courses for teachers and was curious about having a geographically distributed group for teachers to get together? Might be good to have local groups that get together on an informal level. He'd love to talk to other people locally but he's nervous about jumping in. Wants to see how they do things.

Content

- Went pretty well, but she struggled in terms of her comfort with the content. That might be a broader comment.
- She wanted library specific examples. After the training, the next step would have been to assist a workshop. She couldn't attend as a participant because there wasn't an opportunity.

What would help you become comfortable teaching a SWC Course? Why haven't you taught?

Time

- He has been teaching all new courses as a professor and that has been demanding. Basically his work has been all consuming and he has been “knocked out” by it. The barriers for him are exogenous, he has no time or energy for it. No time to “frolic on my own”. I asked if he could just show up and teach if that would help - he says that he’s skilled, but the specific lessons - he needs to take the time to “sit and watch” and “make it my own” and be familiar with the materials. He doesn’t have time for that.
- She says she needs to get comfortable with the material and while she knows she has to be only one step in front of people and she doesn’t have to be an expert - it’s a lot. The work she does goes beyond the scope of SWC skill set and there’s a limit for the amount of time she can spend on professional development. She wants to be engaged, but science focused ranks lower for her in terms of what she can commit to. “I do want to take a course, I need to dedicate the time, I struggle with time.”
- In his organization, they don’t have dedicated people to do computational work. A group has met to learn more computing, but it hasn’t always worked well. The groups are divided and the expertise can be in different areas. He wanted to make the tools available to them. SWC is a way of getting people interested in the thought process and coding. He wants to offer it within the organization and also outside of the organization. He thinks they might run a SWC course later.

Travel

- He has a limit that he doesn’t travel except for family. Because he doesn’t want to use more carbon than he has to. That means for him to do it, the event has to be local. And most of the travel he has seen has been around the world.
- The primary reason he doesn’t do bootcamps is that he has young children and he is “a little on the older side” which means he’s curtailed traveling because of his family.
- Travel is an issue. Beyond getting the material figured out, she has to get the time off and traveling can be a challenge.
- He’s not willing to do more than a day trip, he’s not going to do an overnight, he has other commitments. He hasn’t volunteered because he is remote and there is nothing here. He hears emails about [a nearby university] if there is interest in creating a session there, he will volunteer. He could go to [another nearby town] too. But the timing has to work out for him. It has to not conflict with other things he’s doing.

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- How does it work on the website? She hasn't figured out how to get involved if the place you work isn't initiating a workshop. She doesn't know how to indicate interest if another place wanted to have her come teach.
- He is not interested in organizing a training.
- Most problems for him are local and infrastructural. He knows how to do a pull request isn't sure how to go teach a course. "It seems ad hoc."
- Getting money out of academic budgets can be problematic, no one is paying for teaching. It would be great to get some tricks and tips to squeeze money out of the universities. Is there a template letter to make a case for SWC? Printed documents or a letter to make a case might help. It's up to us to raise the profile ourselves. To do that we have to show it's a good thing and deliver good training. It's hard to get suitable training.
- He can't open the doors of his institute to others because it's a secure site. He can't say that anyone could attend the training because if they do it at his workplace, participants have to have security clearances. "I do use the materials, just never officially as a SWC."

Other Feedback

Talking to others in organization about SWC

- As a director of a group on campus that focuses on visual analytics, he has been talking about the SWC training. He has brought it up with folks on campus that are interested and advocated in among the folks in the administration.
- After I took the instructor's training, friends who are teachers were impressed with the topics we covered and how in tune with modern teaching methods it was.
- Coincidentally a colleague asked if he would consider teaching SWC at her site. He's interested. Doing a training for her and with her would make it easier to keep up our collaboration "It's difficult to make a case for the two of us to collaborate but if I'm already there to teach SWC, that helps to make a case for it."

Value of SWC

- In his department, this kind of work is considered not a positive thing to do. It's a quandary, because they don't value him doing this. The goal for his department is research, not in professional skills. They have a narrow idea of what success is and while they're open, it's very narrow. Going off and training students in Software Carpentry is simply not valued. He sees that other disciplines value it more. What he sees is graduate students who do things like SWC need to "slip under the radar" to do the training. He knows that the VP of research has "seen the light" with regard to this kind of work and wants to give money to support it because they understand the value. This person knows that students aren't getting training and there needs to be support for them. He joked that this is similar to the Soviet Union - in the department the grad students are doing dissonant activities and trying not to get caught by the secret police.
- "In our research institute, we have PhD students who do work for us. There's a whole raft of courses for them. There was one intro to informatics. He used the SWC materials to work out exercises for the shell. That workshop didn't us Github or other aspects of SWC. One or two people from those trainings have gone to SWC courses."

Communication

- He is in a constant war with email so he is becoming indifferent to the organization because of the constant email traffic. He has no idea which listserv he is on. He would like to discuss things at times, but thinks there's way too much traffic to be able to respond to which makes him less engaged. "My one remaining connection [to SWC] distances me" "If I cut off my connection [by unsubscribing], I cut off SWC". "I don't have the time to manage low priority email." He is open to less regular emails and occasionally it's relevant to him - but it's a fire hose. There are nuggets that have been useful for him as a teacher.

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- He feels a little bit guilty that he can't give back to the organization, he has gained tremendously from the discussions he's had and from the email listeserv. There are several tracks about teaching that have been useful. He wants to stay involved because he does get benefit from it. He "hates to free ride" but it's just that he's not adept at teaching the basics. It takes time to teach those things.
- He's not involved online. "I know there are Github repos, but if there's a mailing list, I don't know about it."
- "I am not active in the community, I see the mailing list and there are a lot of good people pushing ideas, but the volume of emails is just a lot."
- He liked some of the stuff from the instructor's mailing list, about reproducibility. "It's a good community to be in touch with." The training didn't get me to teach SWC though.

Use of the materials

- He found the materials useful and he touts the materials when he gets the chance. Within his organization, he thinks there is an effort to do training and he has tried to integrate these materials. He has had one chance to do an Intro to R workshop internal to the organization and there were over 100 people. They've been experimenting in doing these trainings remotely with helpers in various places so that more people can get the information they need.
- He has a day job, and while he was given permission to spend the time internally to do this work for his own group and for another group internal to his organization, he was really R focused and not interested in teaching Git and Shell. He thinks that loses people and it's a step too far for what they needed. What his organization needed was R.
- "We'd like to do a workshop at our organization, but not all content is developed and there are fewer in this area. SWC should help develop more library specific material, they may need to separate out the library community - It would be great if there were instructor meetings to be easier."
- "The materials are useful for us - they are clear walk-throughs and exercises are valuable and clear. It would be really useful for us to have library specific examples. We need more of a context for why these skills are so important for librarians to use." We need the relatability.
- It would help to have a wider selection of interactive activities to choose from and more alternative questions and exercises. Maybe there could be a canonical lesson plan and a few alternative routes through the material.
- He has pointed people to materials and showed them they can get somewhere with self-paced courses. They've returned to see him a couple more times but he's not sure if it works.

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Competition

- “In our local network, there was another group that offered to teach a workshop for \$2000 and said - we’ll do all the work and offer the workshops. It’s a different model that we could go for - we didn’t do it - but we could have. It was compelling to - we were running into barriers - sometimes it’s challenging to get money from organizers to do the budget and have the weight on our shoulders to make it successful versus bringing someone in to just DO it. We do have local knowledge and people who are willing to do the work. But it’s a lot of work - everything has to be in two languages in our country. If we were to bring someone in to do this workshop, ideally they’d speak both languages. It’s about how we want to organize our time.”
- They have tried to contract out training for R to a group that is external to the organization and it didn’t go very well. “I’d rather figure out ways to make it useful for people than repeat that.”
- “People who use python don’t need the intro level classes. My students have picked it up on their own, if my own students needed it, I’d do it, but they don’t need it.”

Other

- One respondent said that there was a cultural difference between [his country] and the US. The instructor trainer made a joke that while it went over ok, it wasn’t culturally sensitive. “If it had been taken out of context, it wouldn’t have been seen as appropriate.” He suggested having discussions about what it means to be culturally sensitive and moving between cultures. He suggests getting more guidance to the teachers and teacher trainers about what it means to do work internationally. If it’s left to the instructor’s sensitivities it might not work. It is possible to say something in two places and have it interpreted differently. If a joke might be offensive, the instructor should consider if it should be used at all.