Analysis of the Carpentries Instructor Training Post-Workshop Survey Data

Lead: Kari L. Jordan

This analysis of The Carpentries Instructor Training post-workshop survey serves to offer recommendations for changes to curriculum and assessment of The Carpentries instructor training program.

There were a total 573 trainees who completed this survey in between June 2016 and February 2018.

When are trainees completing the post instructor training survey?

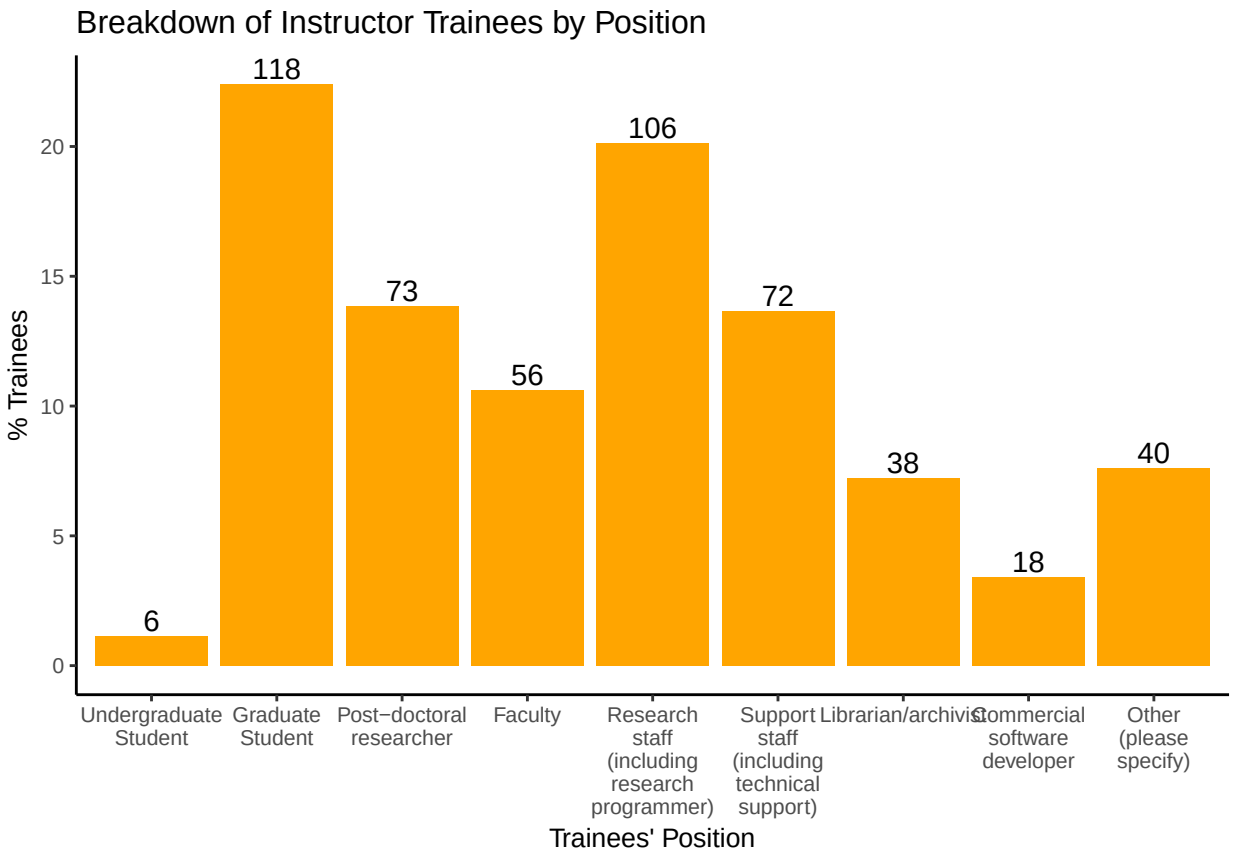
When are you taking the survey?	n	%
I have just completed the training, and am taking it at the event	409	71
I have recently completed the training, and am taking it after I left the event	164	29

Demographics

Domain of research/work/study	n	%
Life Sciences (Genetics, genomics, bioinformatics)	126	26.6
Life Science - Organismal/systems (ecology, botany, zoology, microbiology, neuroscience)	106	22.4
High performance computing	82	17.3
Mathematics/statistics	58	12.2
Library and information science	54	11.4
Physics	50	10.5
Planetary sciences (geology, climatology, oceanography, etc.)	38	8.0
Social sciences	33	7.0
Humanities	27	5.7
Economics/business	24	5.1
Education	24	5.1
Chemistry	20	4.2
Space sciences	20	4.2
Civil, mechanical, chemical, or nuclear engineering	19	4.0
Medicine and/or Pharmacy	12	2.5
Psychology	8	1.7

Nearly half (49%) of our instructor trainees are from the life sciences, with another third (29.5%) coming from either computing or mathematics/statistics. These figures highlight the need to expand our training efforts into other disciplines, particularly those in which we are developing new curricula, including social sciences, economics, business, and chemistry. To ensure that new curricula are able to be delivered to researchers in the target domains, it is essential that we train instructors in those domains who will be able to teach those curricula.

Position



To inform our efforts to improve the diversity of our instructor community, we collect additional demographic information from U.S. participants. This information is completely voluntary. Trainees were asked to self-report how they identify themselves by selecting among various racial/ethnic groups and to describe their gender identity.

Racial/Ethnic Identity	n	%
White	272	70
Asian	53	14
Hispanic or Latino(a)	24	6
Prefer not to say	20	5
Multiple ethnicity / Other (please specify)	15	4
Black or African American	6	2
American Indian or Alaska Native	1	0

Our US instructor body is not representative of the US population as a whole, illustrating the need for us to actively recruit from and provide more opportunities for involvement for researchers and other professionals from diverse ethnic and racial backgrounds. As many of our instructors come from member institutions, one avenue to increasing the diversity of our instructor body is working with historically black colleges and universities, hispanic serving institutions, and tribal colleges to promote membership within those institutions.

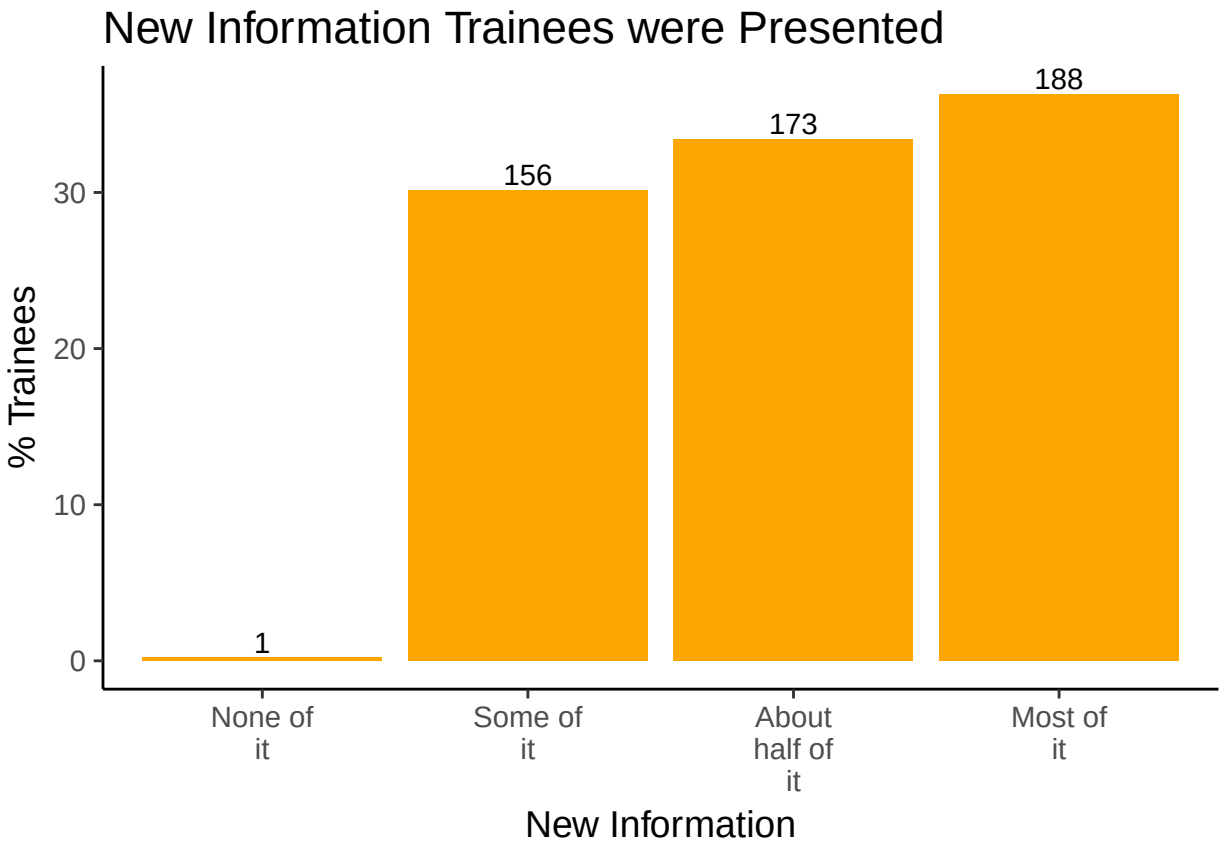
Gender Identity	n	%
Male	234	59
Female	143	36
Prefer not to say	15	4
Other	5	1

Although a large proportion of our instructors are female, we have not yet reached gender parity in our instructor community. (Note to Kari: It would be informative to know whether this is representative of the applications we receive or if we're disproportionatly selecting male applicants. I analyzed this about a year ago (carpentry-private-data/instructor-assessment/scripts/training-requests.html) and we were accepting a higher proportion of female applicants at that time compared to application rates.)

Feedback about the overall training event.

We are interested to know how much of the information presented at Carpentries instructor training events is new. The following table shows that about one third of trainees fall into either some, about half, or most of the information being new to them.

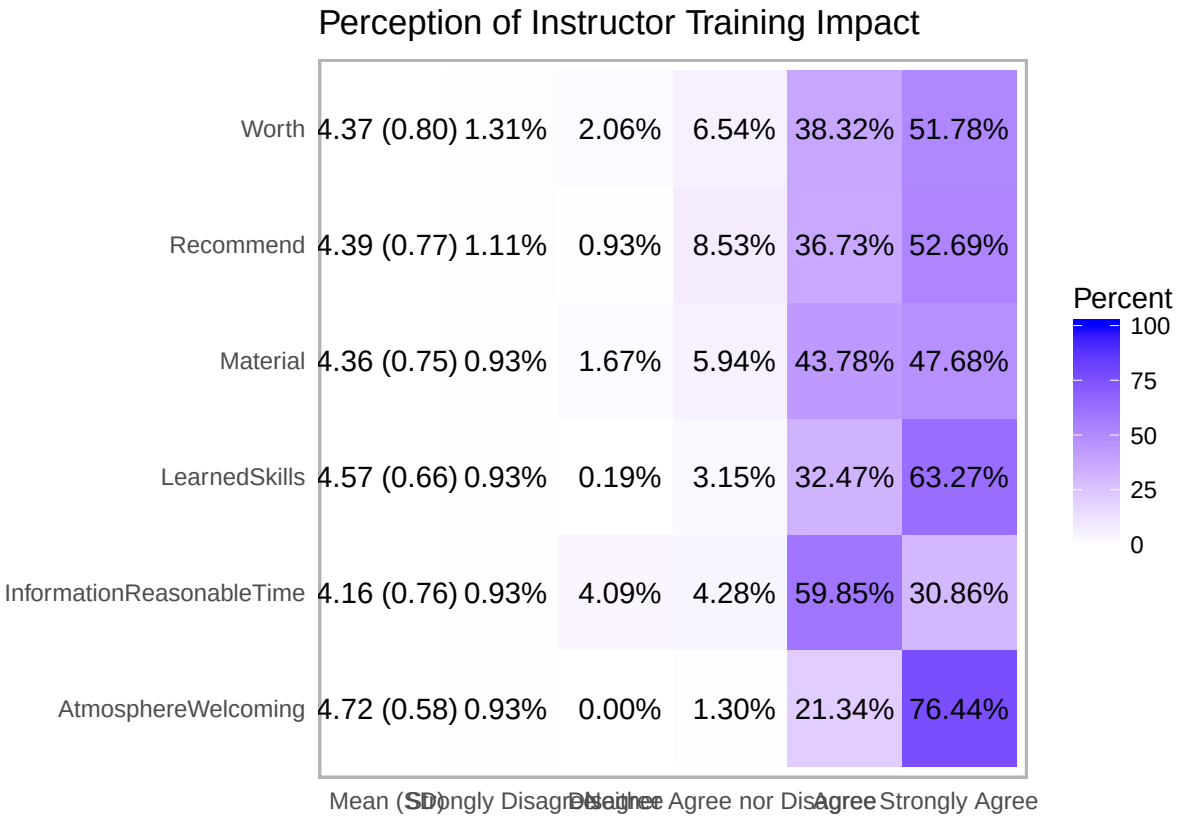
How much information was new?	n	%
None of it	1	0
Some of it	156	30
About half of it	173	33
Most of it	188	36



Trainees were asked to rate their level of agreement about the following statements as it relates to the overall training event.

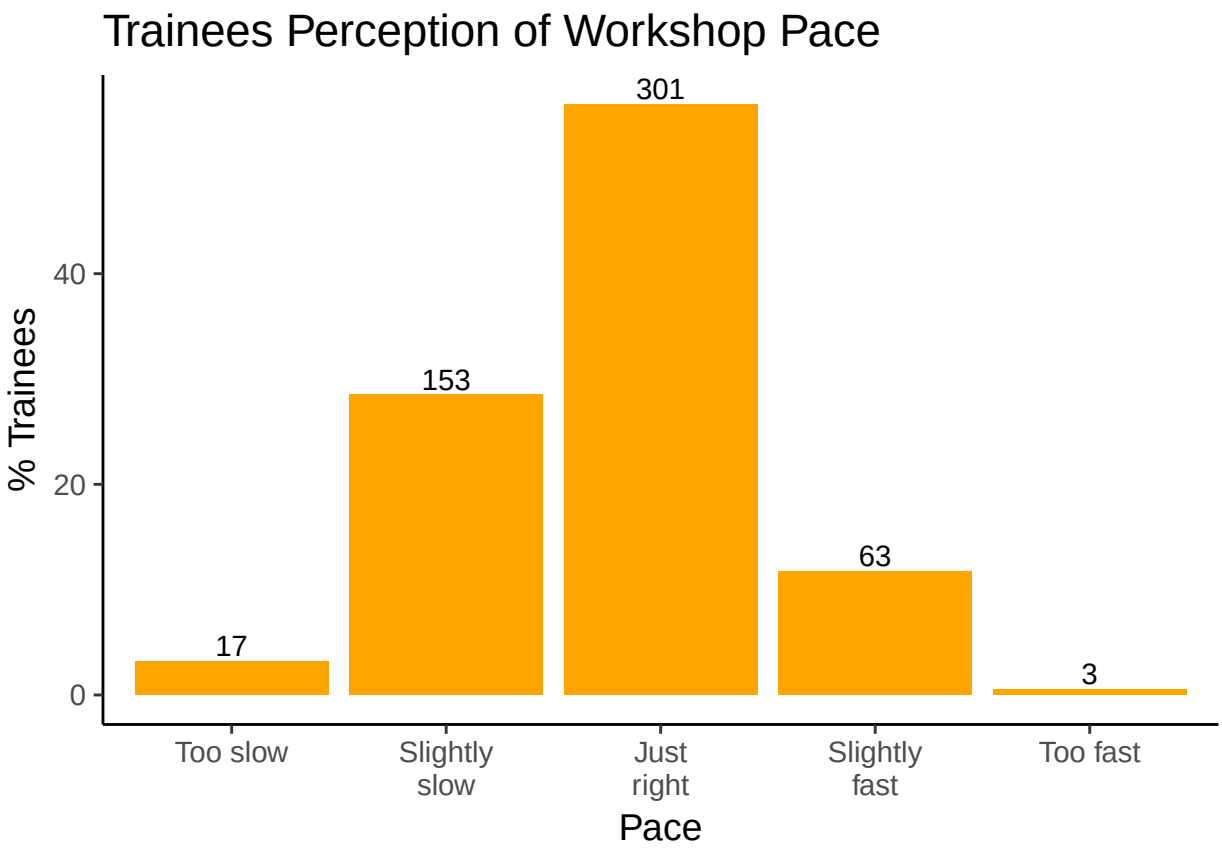
- **Worth**: The training was worth my time.
- **Recommend**: I would recommend this training to a friend/colleague.
- **Material**: The material preented matched the description of the training event.
- **LearnedSkills**: I learned skills that I will be able to use in my teaching.
- **InformationReasonableTime**: The amount of information covered was reasonable for alloted time.

- **AtmosphereWelcoming**: The overall atmosphere was welcoming.



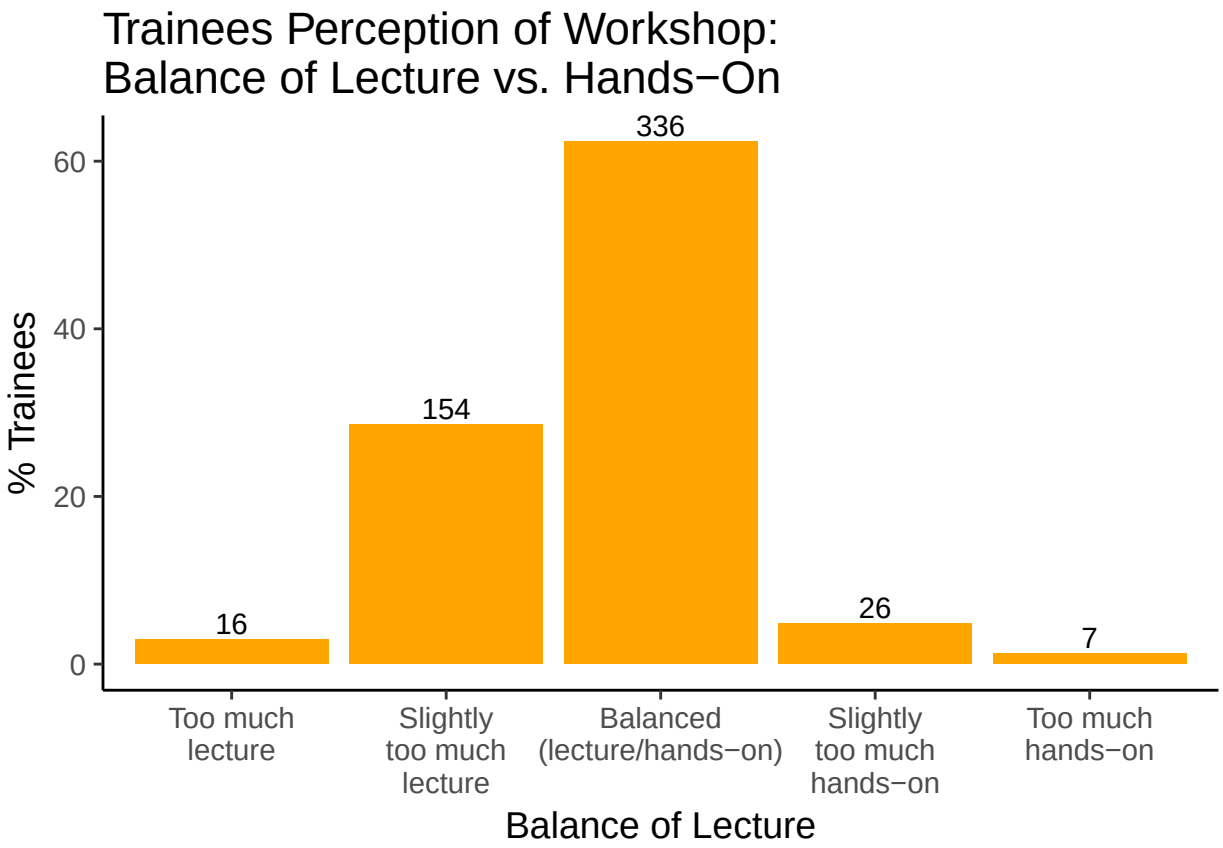
Trainees were asked how they perceived the pace of the training.

Training Pace	n	%
Too slow	17	3
Slightly slow	153	28
Just right	301	56
Slightly fast	63	12
Too fast	3	1



Trainees were also asked to rate the balance of lecture to hands-on work.

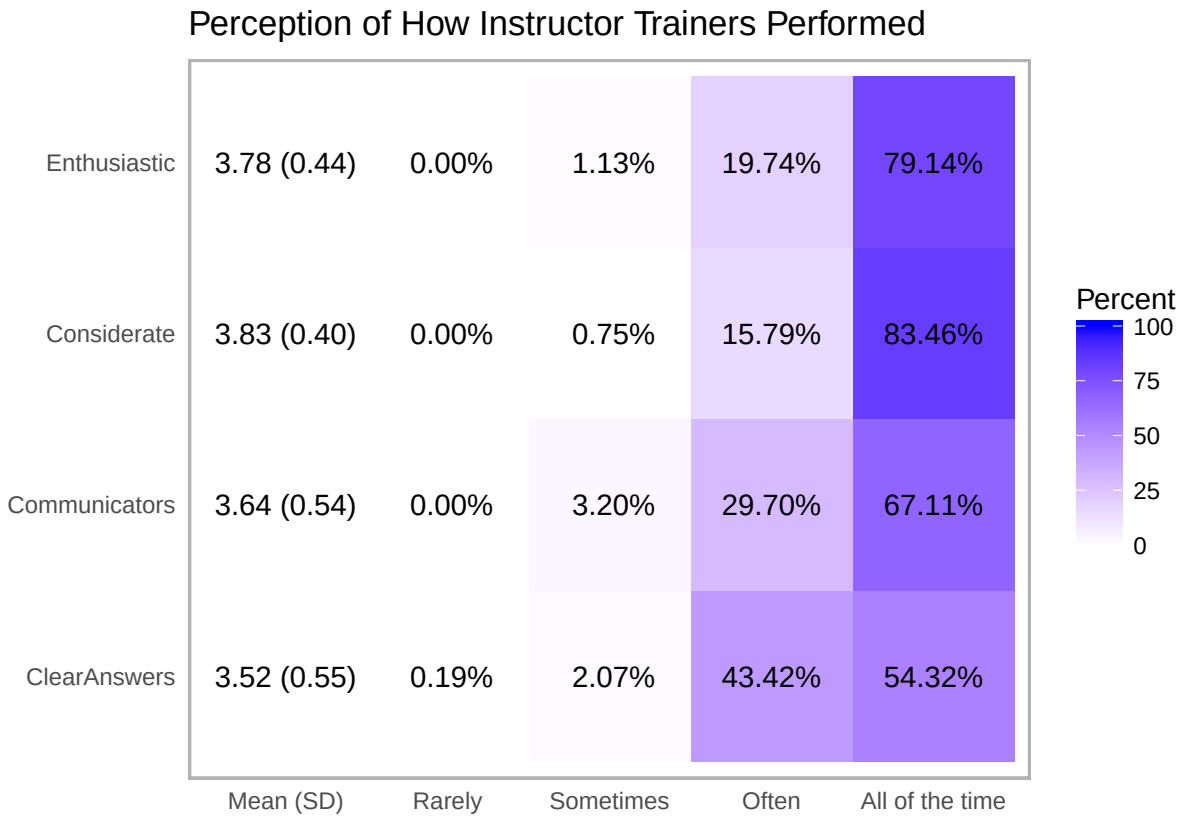
Balance of Lecture to Hands-On	n	%
Too much lecture	16	3
Slightly too much lecture	154	29
Balanced (lecture/hands-on)	336	62
Slightly too much hands-on	26	5
Too much hands-on	7	1



About the Instructors and Helpers

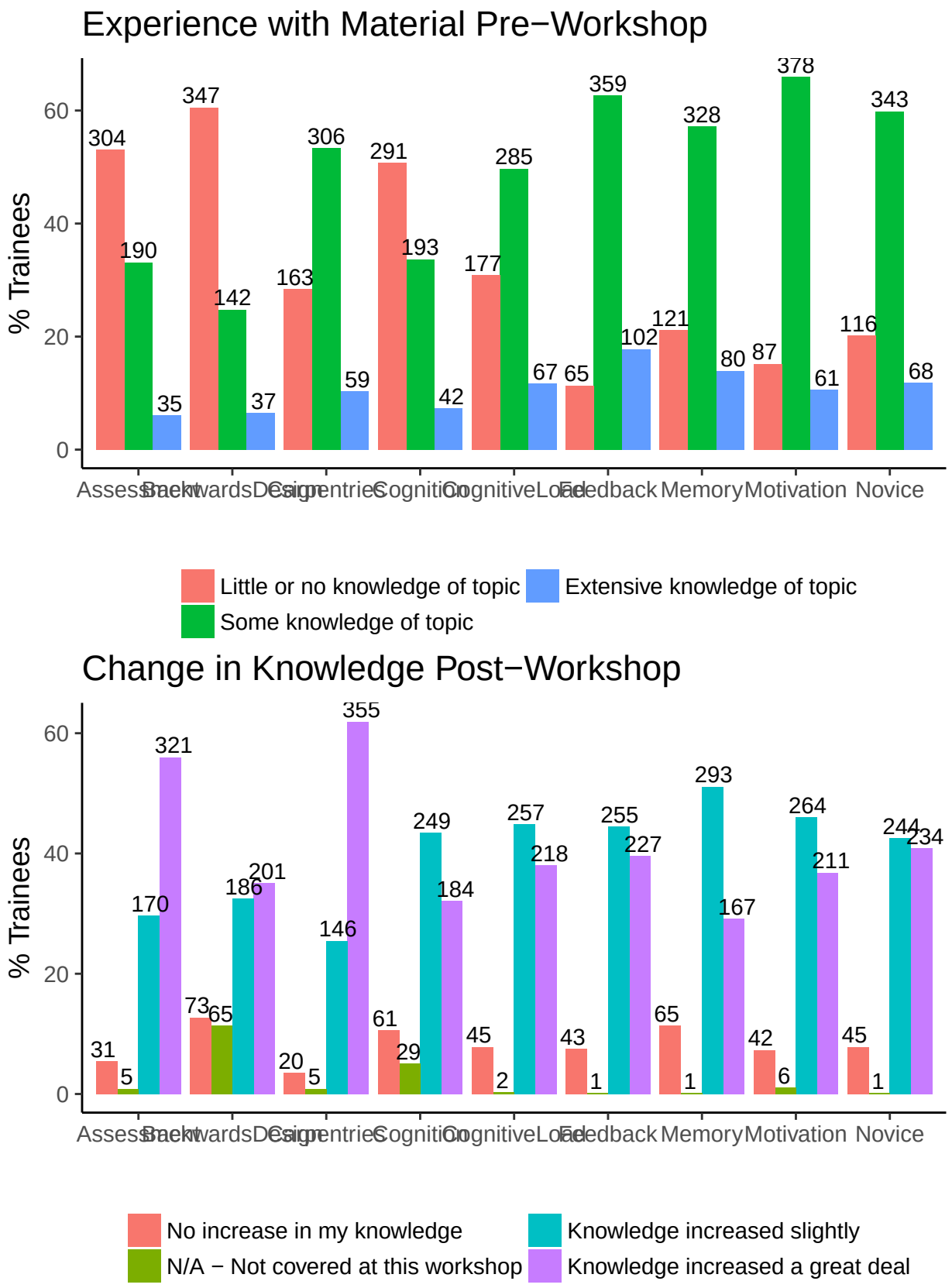
Trainees were asked to select how they felt the instructor trainers(s) performed based on the following:

- **Enthusiastic**: Instructor trainer(s) were enthusiastic.
- **Considerate**: Instructor trainer(s) were considerate.
- **Communicators**: Instructor trainer(s) were good communicators.
- **ClearAnswers**: Instructor trainer(s) gave clear answers to your questions.



Trainees were asked to describe their experience with the following topics before the training, and their change in knowledge of these topics after the training. The topics are as follows:

- **Assessment**: Formative vs. summative assessment
- **BackwardsDesign**: Backwards design
- **Carpentries**: What the Carpentries are and what they do
- **Cognition**: Levels of cognition
- **CognitiveLoad**: Cognitive load
- **Feedback**: Giving effective feedback
- **Memory**: How human memory works
- **Motiation**: Motivation
- **Novice**: What makes someone a novice or expert



Trainees were asked how their motivation to learn more about the topics below changed:

- **Assessment**: Formative vs. summative assessment
- **BackwardsDesign**: Backwards design
- **Carpentries**: What the Carpentries are and what they do
- **Cognition**: Levels of cognition
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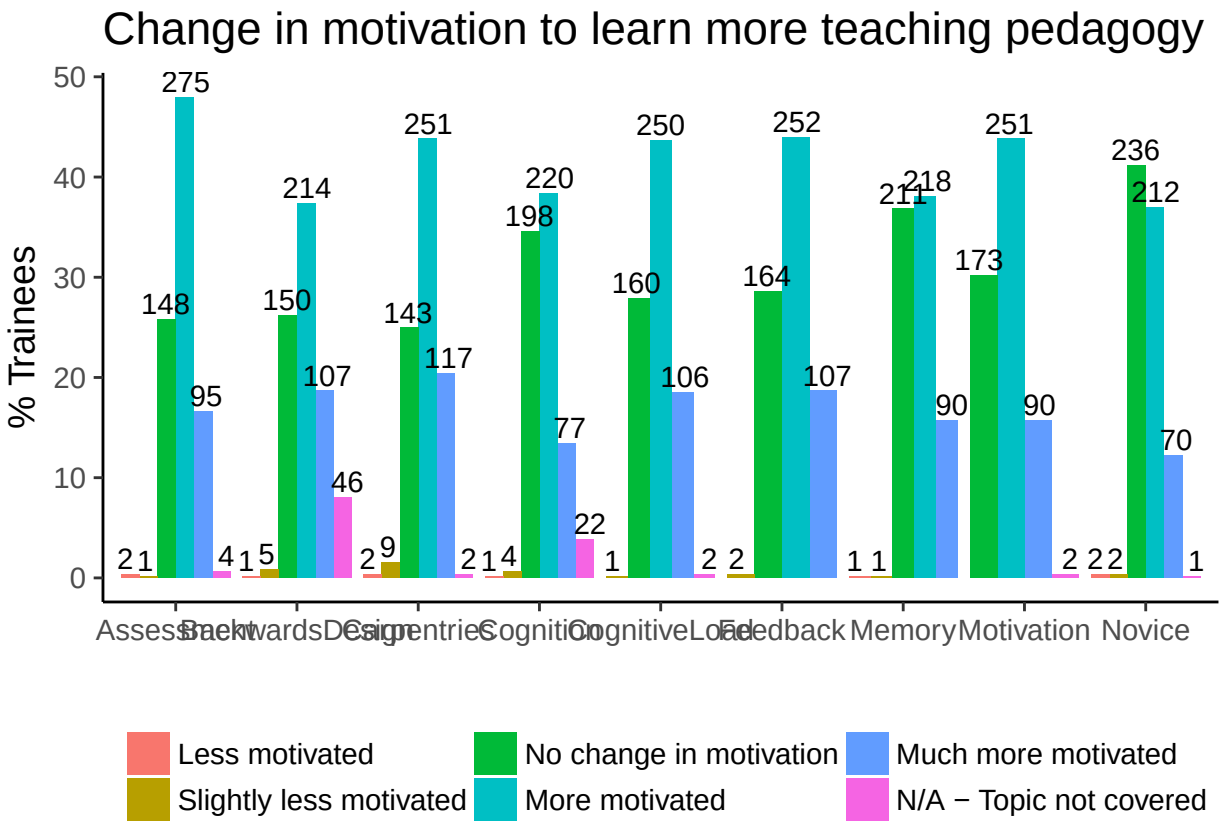
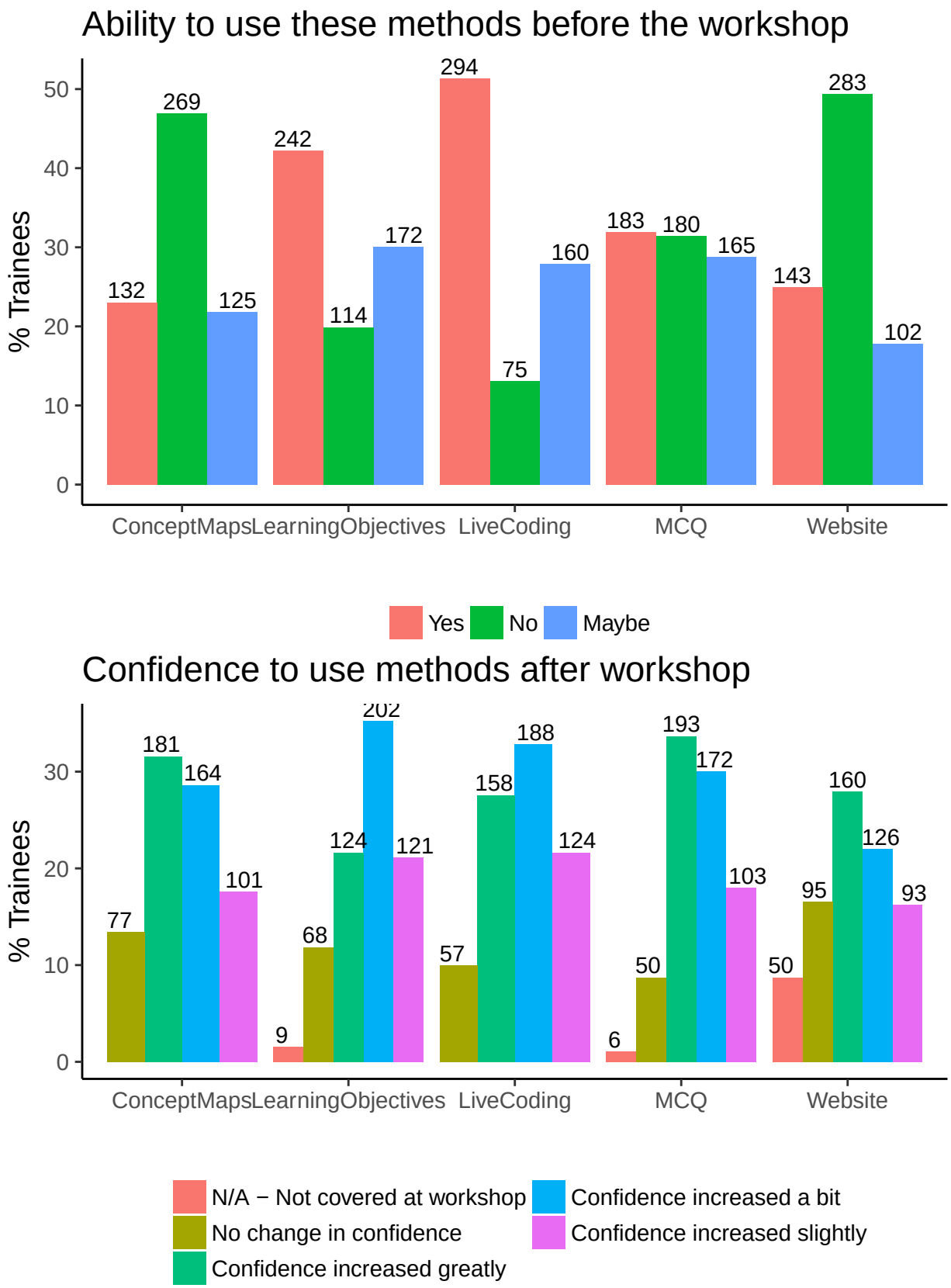


Change in confidence with Carpentries teaching practices

Trainees were asked to rate their ability before the training, and their change in confidence after the training, for the following items:

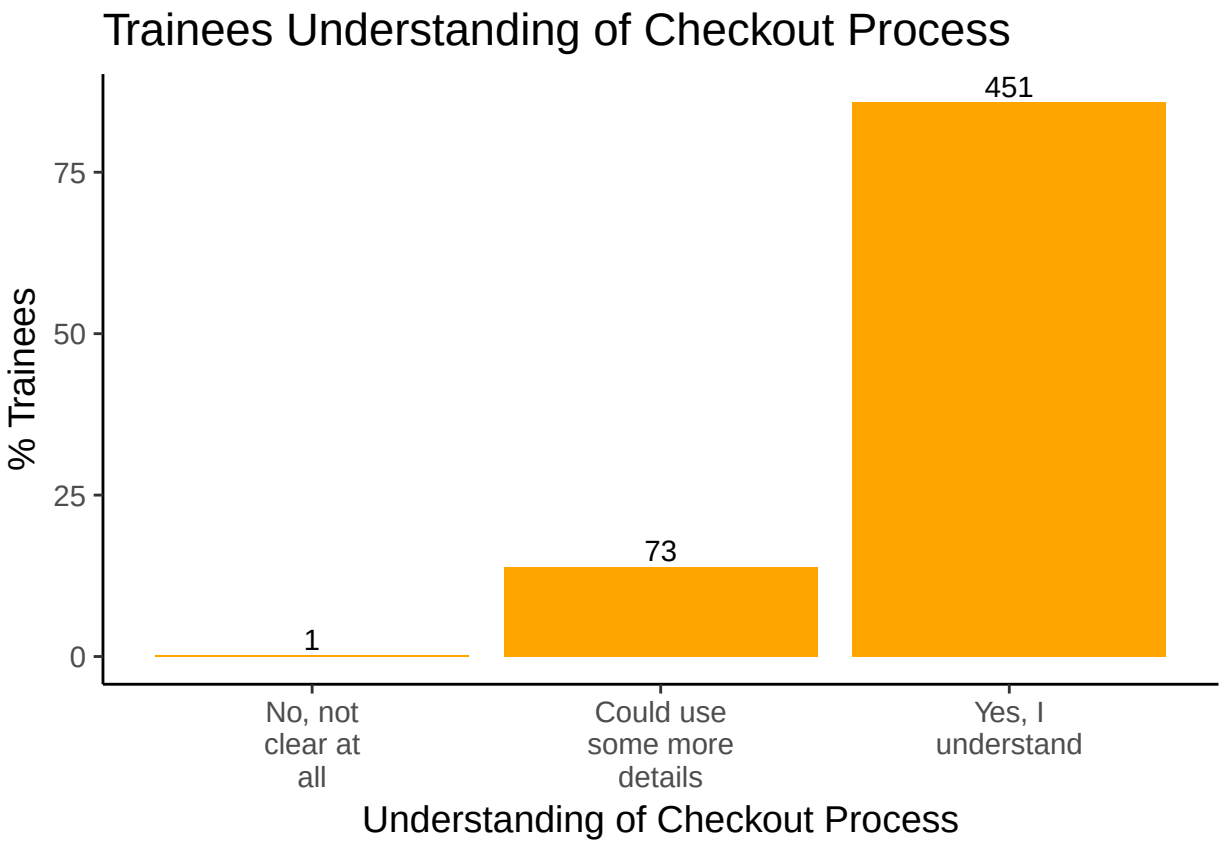
- **ConceptMaps**: Use a concept map for lesson planning
- **Learning Objectives**: Write effective learning objectives
- **LiveCoding**: Teach using live coding

- **MCQ**: Write a multiple choice question with diagnostic power
- **Website**: Set up a workshop website



Trainees were asked if they have a clear understanding of what needs to be done to complete instructor training.

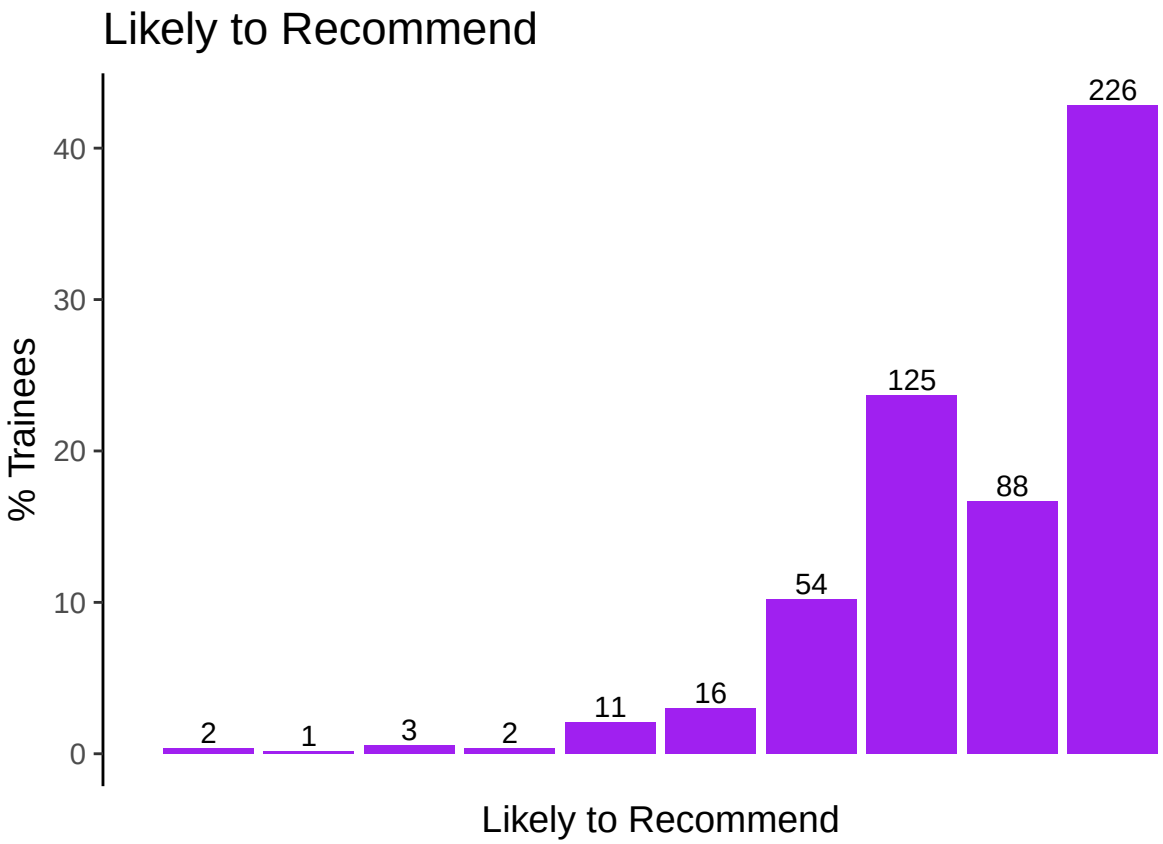
Clear on Checkout Process?	n	%
No, not clear at all	1	0
Could use some more details	73	14
Yes, I understand	451	86



Recommending Carpentries' Instructor Training

Trainees were asked how likely they are to recommend a Software and/or Data Carpentry workshop to a friend or colleague using the Net Promoter Score. The scoring for this question based on a 0 to 10 scale. Trainees scoring from 0 to 6.4 are labeled *Detractors*, and are believed to be less likely to recommend a workshop. Those who respond with a score of 8.5 to 10 are called *Promoters*, and are considered likely to recommend a workshop. Trainees between 6.5 and 8.4 are labeled *Passives*, and their behavior falls in the middle of Promoters and Detractors.

category	n	%
Detractor	35	6.628788
Passive	179	33.901515
Promoter	314	59.469697


Likely to Recommend
% Trainees
0
10
20
30
40
2
1
3
2
11
16
54
125
88
226
Likely to Recommend